

AVM 30

OPERATING MANUAL

ANHEM™



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SOFTWARE VERSION 1.1x



BREAKING THE SOUND BARRIER™

SAFETY PRECAUTIONS

READ THIS SECTION CAREFULLY BEFORE PROCEEDING!

	WARNING RISK OF ELECTRIC SHOCK DO NOT OPEN	
WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		



The lightning flash with arrowpoint within an equilateral triangle warns of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle warns users of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

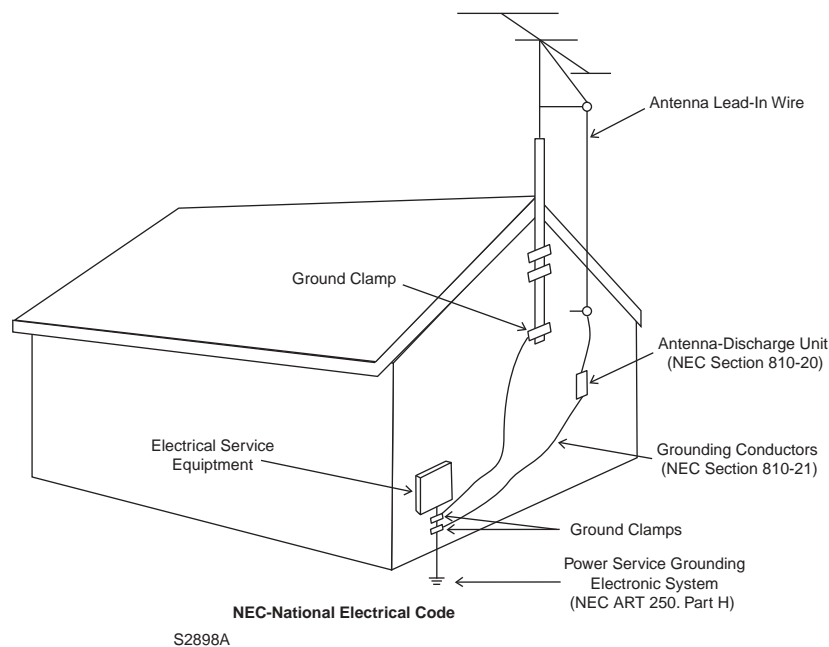
CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE THE FUSE ONLY WITH THE SAME AMPERAGE AND VOLTAGE TYPE. REFER REPLACEMENT TO QUALIFIED SERVICE PERSONNEL.

WARNING: UNIT MAY BECOME HOT. ALWAYS PROVIDE ADEQUATE VENTILATION TO ALLOW FOR COOLING. DO NOT PLACE NEAR A HEAT SOURCE, OR IN SPACES THAT CAN RESTRICT VENTILATION.

IMPORTANT SAFETY INSTRUCTIONS

- 1. Read Instructions** – All the safety and operating instructions should be read before the product is operated.
- 2. Retain Instructions** – The safety and operating instructions should be retained for future reference.
- 3. Heed Warnings** – All warnings on the product and in the operating instructions should be adhered to.
- 4. Follow Instructions** – All operating and use instructions should be followed.
- 5. Cleaning** – Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp, soft cloth for cleaning.
- 6. Water and Moisture** – Do not use this product near water – for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.
- 7. Accessories** – Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

8. **Ventilation** – Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer’s instructions have been adhered to.
9. **Power Sources** – This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.
10. **Grounding and Polarization** – This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
11. **Power-cord Protection** – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
12. **Outdoor Antenna Grounding** – If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to the proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna-discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.



13. **Lightning** – For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable systems. This will prevent damage to the product due to lightning and power-line surges.
14. **Power Lines** – An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

- 15. Overloading** – Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
- 16. Object and Liquid Entry** – Never push objects of any kind through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on this product.
- 17. Servicing** – Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- 18. Damage Requiring Service** – Unplug this product from the wall outlet and refer servicing to qualified personnel under the following conditions:
- When power-supply cord or plug is damaged.
 - If liquid has been spilled, or objects have fallen into the product.
 - If the product has been exposed to rain or water.
 - If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will require extensive work by a qualified technician to restore the product to its normal operation.
 - If the product has been dropped or damaged in any way.
 - If the product exhibits a distinct change in performance – this indicates a need for service.
- 19. Replacement Parts** – When replacement parts are required, be sure the technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
- 20. Safety Check** – Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
- 21. Heat** – The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

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1. INTRODUCTION

Thank you for purchasing the Anthem AVM 30 Preamplifier • Processor • Tuner.

Anthem Electronics has been manufacturing high-quality, high-end audio equipment for over a decade. In that time, Anthem has built an enviable reputation for products that can recreate the passion a music lover experiences when attending a live musical performance, or the thrilling sound a movie buff experiences in the very best movie theaters. Anthem equipment allows audiophiles to almost “be there” each and every time they sit and enjoy music or home theater in the comfort of their home. Anthem provides all this with the highest level of craftsmanship, sophisticated circuit designs, superior quality parts and materials, modern intuitive ergonomics, and stylish industrial design.

Although Anthem products sound great “right out of the carton”, they will sound even better after they are thermally stabilized. We therefore recommend that you operate this product for a period of time before doing any critical listening.

The AVM 30 is a state-of-the-art four path A/V Preamplifier / Surround Sound Processor, with built-in FM • AM Tuner. It is designed to provide high-end sound and video for both music, home theater, and multi-room applications.

1 RECEIVING AND UNPACKING THE AVM 30

The AVM 30 is shipped in a reinforced shipping box. Please keep this box for any future shipment. Check that you have received everything in the Packing List below and report any discrepancies to your dealer as soon as possible. **Keep the invoice that you received from your authorized Anthem dealer at time of purchase – without it, service cannot be given under warranty.**

1.1 PACKING LIST

- AVM 30
- Powered IR Terminal Block (on rear panel)
- Remote Control
- 2 'AA' Batteries
- Power Cord
- FM Antenna
- 75-ohm to 300-ohm FM Antenna Adapter
- AM Loop Antenna
- Operating Manual

1.2 IMPORTANT SAFETY INSTRUCTIONS



- The Front Panel power switches are secondary only; they do not disconnect the AVM 30 from the AC power line. Line voltage is switched off through the rear panel power switch.
- Failing to comply with any safety instruction, precaution, or warning in this Operating Manual is in direct violation of the standards of design, manufacture, and intended use of the product.
- Anthem, Sonic Frontiers International, our agents, and any related party assume no liability whatsoever for the user’s failure to comply with any or all of these requirements.

1.2.1 BEFORE OPERATING YOUR AVM 30

- Do not connect power to the AVM 30 if there are signs of damage to any part of its exterior.
- Install the AVM 30 in a stable location. Do not mount to a wall or from a ceiling.
- Allow six or more inches of unobstructed air space above the ventilation slots in the top cover of the AVM 30. Do not block any ventilation openings. Do not obstruct bottom vents by removing the rubber feet or operating the AVM 30 directly on a carpet, sofa, or similar surface.

1. INTRODUCTION continued ...

1.2.2 SUPPLY POWER REQUIREMENTS

The AVM 30 operates from a single phase AC power source that supplies between 105V and 130V at a frequency of 60 Hz. It cannot be changed from 120V to 240V operation.

DO NOT USE A POWER LINE CONDITIONER:

- **Some Power Line Conditioners are incompatible with the AVM 30 and may cause the AVM 30's AC line fuses to blow.**
- **One is not required because the AVM 30's power supply has power line filtering and voltage regulation built in.**

1.2.3 IN-USE NOTICES

- Use only the power supply cord with double insulation as supplied.
- Disconnect the AVM 30's power cord before connecting or disconnecting any components.
- Fuses are not a user serviceable item (see specification section).
- Do not remove the top cover.
- Do not alter or modify the AVM 30 in any way.

1.3 PACKING MATERIALS

Retain the shipping box and all packing material. They are custom designed to prevent shipping damage. Do not ship or transport the AVM 30 in anything other than the original box and packing material.

2. QUICK START

The AVM 30 is a very sophisticated component, providing a multitude of features and connection options, while providing easy intuitive setup and operation. With your AVM 30 in front of you, browse through the illustrations in this section to see several quick system hookup options. It's as simple as following the lines in the connection diagrams to and from each component.

All of these quick system hookup examples work with the Factory Default settings; none require the Setup Menu. Just 'plug & play'! However, references to the Setup Menu section are included to make you aware of the tremendous versatility of the AVM 30.

For the best sound possible you will still have to calibrate your system in the Setup as outlined in section 7. Please do not overlook this important system calibration procedure.

2.1 QUICK START GUIDE – Before you start, make sure all components are unplugged.

To connect a CD player, DVD player, TV, VCR, amplifier(s), and powered subwoofer to the AVM 30:

Note: For this Quick start setup section, you will only need to connect either the Composite or S-Video connections referred to in the following diagrams. Use the S-Video connections wherever possible for the better video quality.

- **CD Player to AVM 30** – see diagram in section 2.2.1
Connect the L/R audio output of the CD player to Analog Audio-In/CD on the AVM 30.
- **DVD Player to AVM 30** – see diagram in section 2.2.2
Video: Connect the player's composite video out to Composite Video-In/DVD on the AVM 30.
Audio: Connect the player's digital audio output to Digital Audio-In/DVD on the AVM 30.
Make sure your DVD player's setup menu is configured to output Dolby Digital and DTS material as "Bitstream", not "PCM", otherwise 5.1-channel soundtracks will be turned into 2.0 channels!
- **AVM 30 to TV** – see diagrams in sections 2.2.2 and 2.2.3
Video: Connect Composite Video-Out/MAIN on the AVM 30 to the TV's composite video input.
Audio: Connect the L/R audio output of the TV to Analog Audio-In/TV on the AVM 30.
- **VCR to AVM 30** – see diagram in section 2.2.3
Video: Connect the VCR's composite video output to Composite Video-In/VCR on the AVM 30.
To Record: Connect Composite Video-Out/VCR to the VCR's composite video input.
Audio: Connect the L/R audio output of the VCR to Analog Audio-In/VCR on the AVM 30.
To Record: Connect Analog Audio-Out/VCR to the L/R audio input of the VCR.
- **AVM 30 to Amplifier(s)** – see diagrams in sections 2.2.4 and 2.2.5
From the AVM 30, connect Front-L, Front-R, Ctr1, Sur-L, Sur-R, Rear-L, and Rear-R Analog Audio-Out to the Front-L, Front-R, Center, Sur-L, Sur-R, Rear-L, and Rear-R inputs of the power amplifier(s). Follow the amplifier's operating manual for connecting the speakers.
- **AVM 30 to Powered Subwoofer** – see diagrams in sections 2.2.4 and 2.2.5
Connect Analog Audio-Out/Sub1 to the subwoofer's line/low level input.

Reconnect the power to all components and turn them on. To turn on the AVM 30, move the switch on the rear panel to the 'on' position and then press the **POWER – MAIN** button on the front panel.

2. QUICK START continued ...

To Watch a DVD:

- Press **DVD** Source on the front panel of the AVM 30.
- Select the TV input that corresponds to the one that the AVM 30's Composite Video-Out/MAIN is plugged into.
- Place a DVD into the DVD player and press play. You should see the picture on your TV and hear sound from your speakers. Adjust volume using the Master Control Knob on the AVM 30.

To Watch a Video Tape:

- Press **VCR** Source on the front panel of the AVM 30.
- With your TV's remote control, select the input that the AVM 30's Composite Video-Out/MAIN is plugged into.
- Insert a tape into the VCR and press play. You should see the picture on your TV and hear sound from your speakers. Use the AVM 30 Master Control Knob on the front panel to adjust volume.

To Listen to a CD:

- Press **CD** Source on the front panel of the AVM 30.
- Place a CD into the CD player and press play. You should hear music coming from your speakers. Use the AVM 30 Master Control Knob on the front panel to adjust volume.

Note about Digital and Analog Inputs:










- You can change any input to Digital or Analog. Digital inputs use the AVM 30's high-end digital to analog converters and can be changed from RCA to Toslink or XLR connection. Analog inputs can be set to Digital Signal Processing for bass management, bass/treble control, time alignment, and surround modes, or Direct to bypass all digital stages. Auto-Dig uses the digital connection if a digital signal is sensed, and automatically switches to analog connection if there is no digital signal. For more information see sections 4.2.1 and 7.4.5.

Note about Your Speakers:

- The AVM 30 allows you to enter information about how many speakers you have in your system, as well as their relative size, type, and distance from your listening position. This speaker setup information is important in directing audio signals optimally, ensuring you get the best quality sound from your system – see sections 7.4.2, 7.4.3, and 7.4.4.

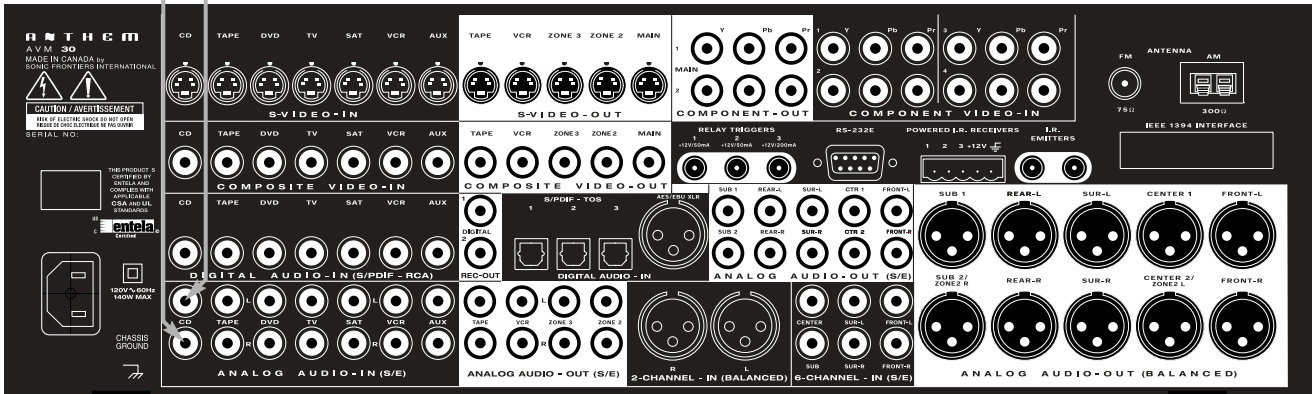
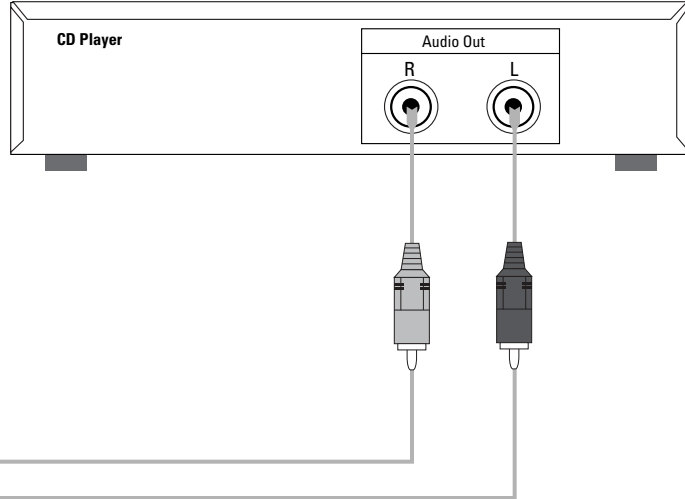
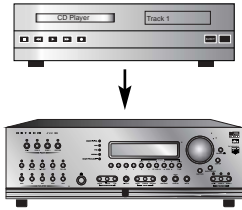
2.2 CONNECTOR DIAGRAMS AND DESCRIPTIONS

The following pages of illustrations contain a variety of standard cable/connectors that are used to connect components to your AVM 30. The various types, and what they are used for, are shown here:

RCA Black or White	RCA Red	RCA Yellow	1/4" Stereo	3.5mm Mini (Mono)	5-Pin Mini DIN	Toslink	XLR Female (connects to output)	XLR Male (connects to input)
								
Analog Left Channel	Analog Right Channel	Digital S/PDIF or Composite Video	Headphone	Relay Trigger IR Emitter	S-Video	Digital Audio S/PDIF	Analog Balanced or Digital AES/EBU	Analog Balanced or Digital AES/EBU
RCA Green: Component Y	RCA Blue: Component Pb	RCA Red: Component Pr						

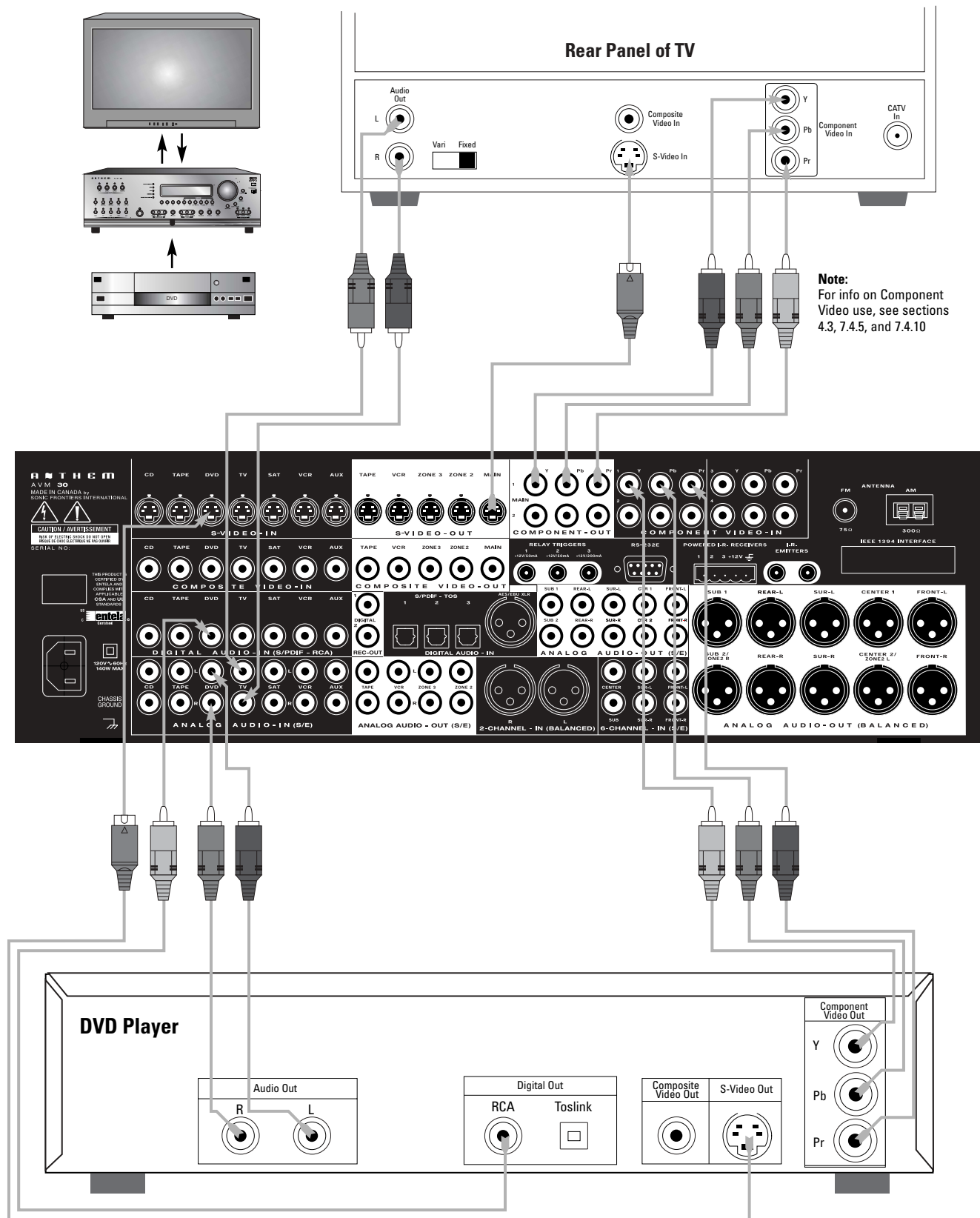
2. QUICK START continued ...

2.2.1 CD Player to AVM 30



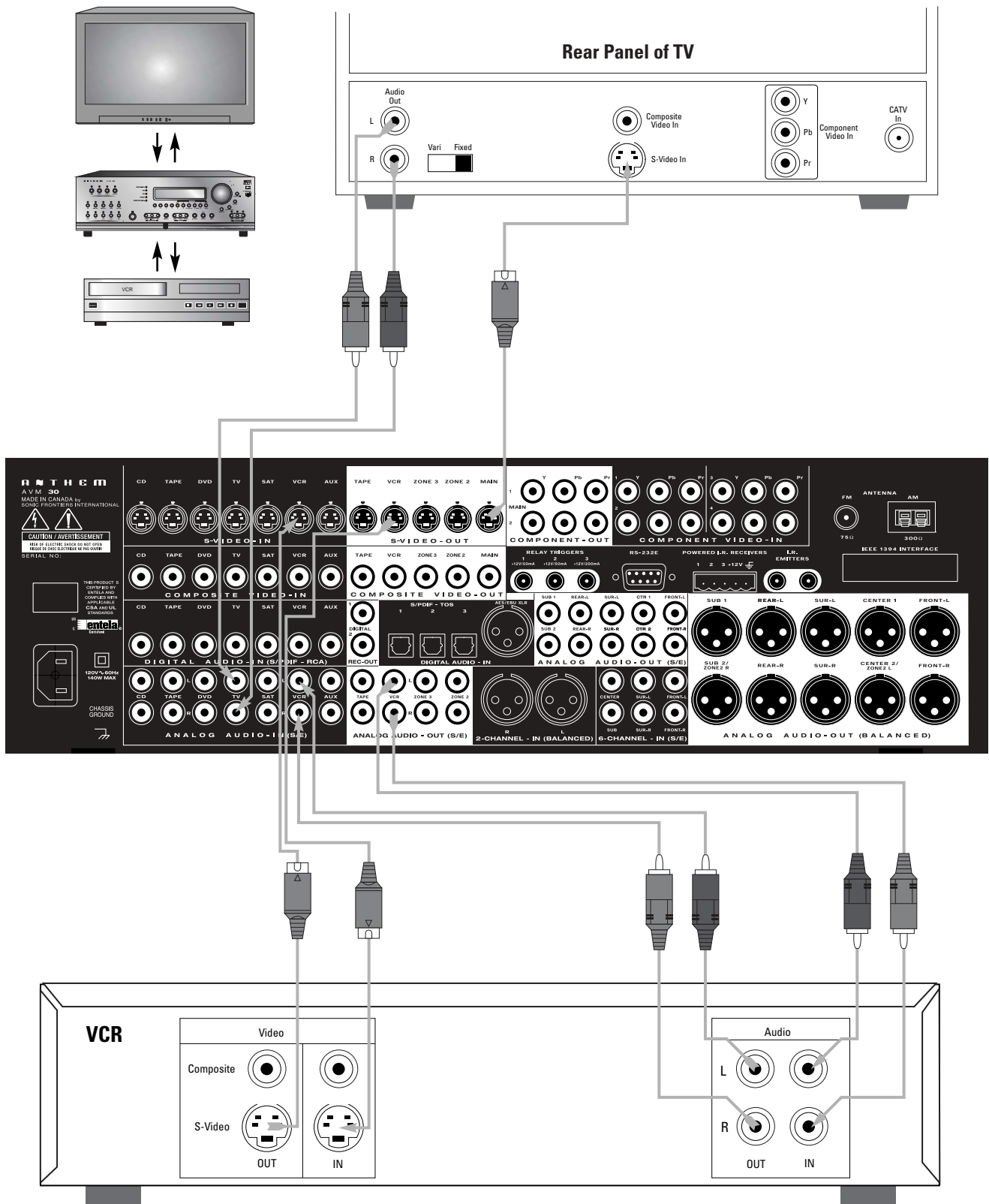
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2.2.2 DVD Player and TV to AVM 30



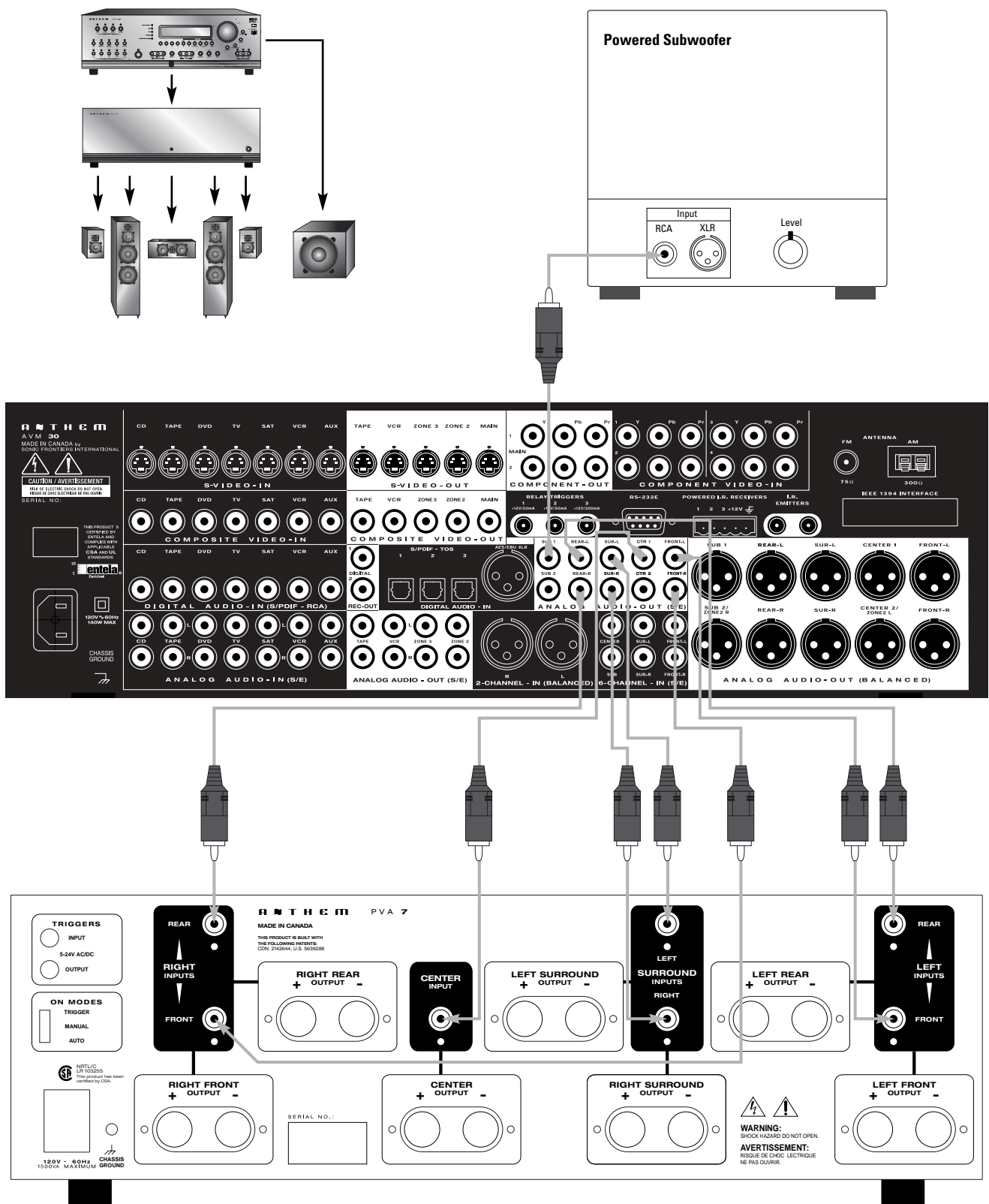
2. QUICK START continued ...

2.2.3 VCR and TV to AVM 30



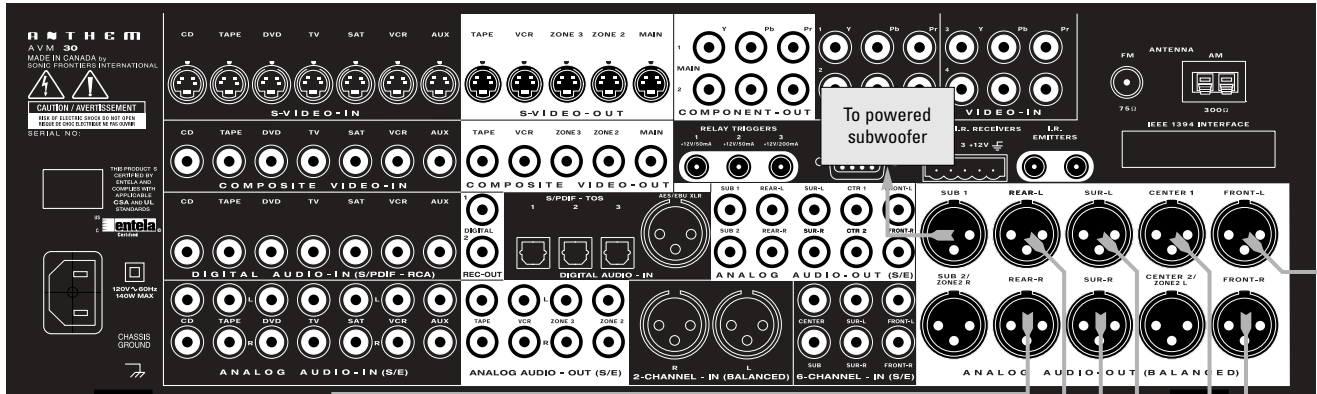
2. QUICK START continued ...

2.2.4 AVM 30 to Amplifier and Powered Subwoofer (RCA)

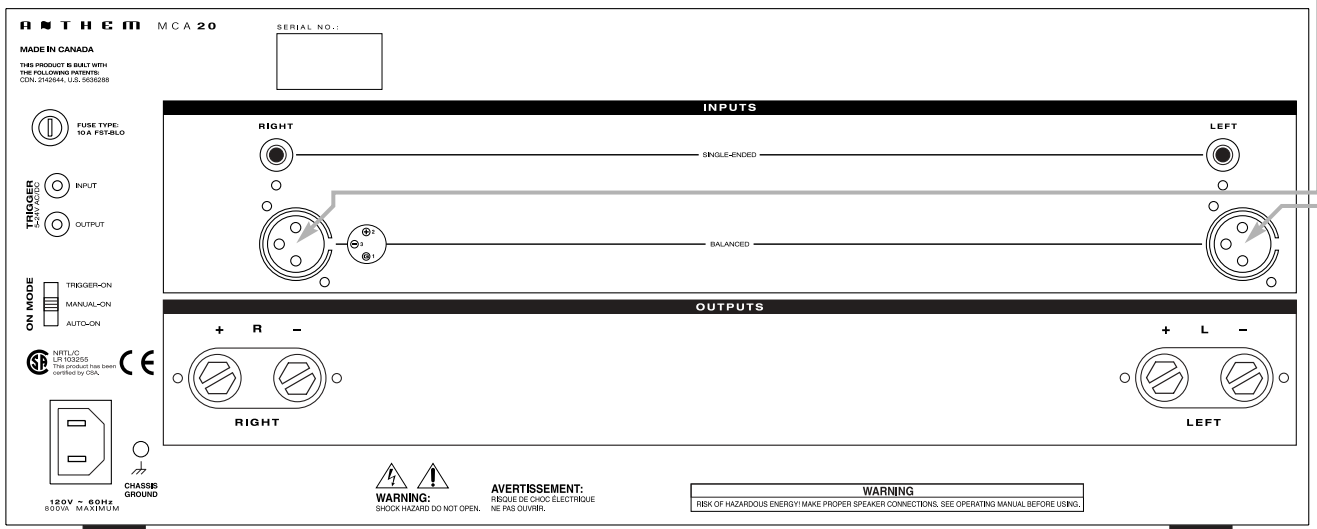
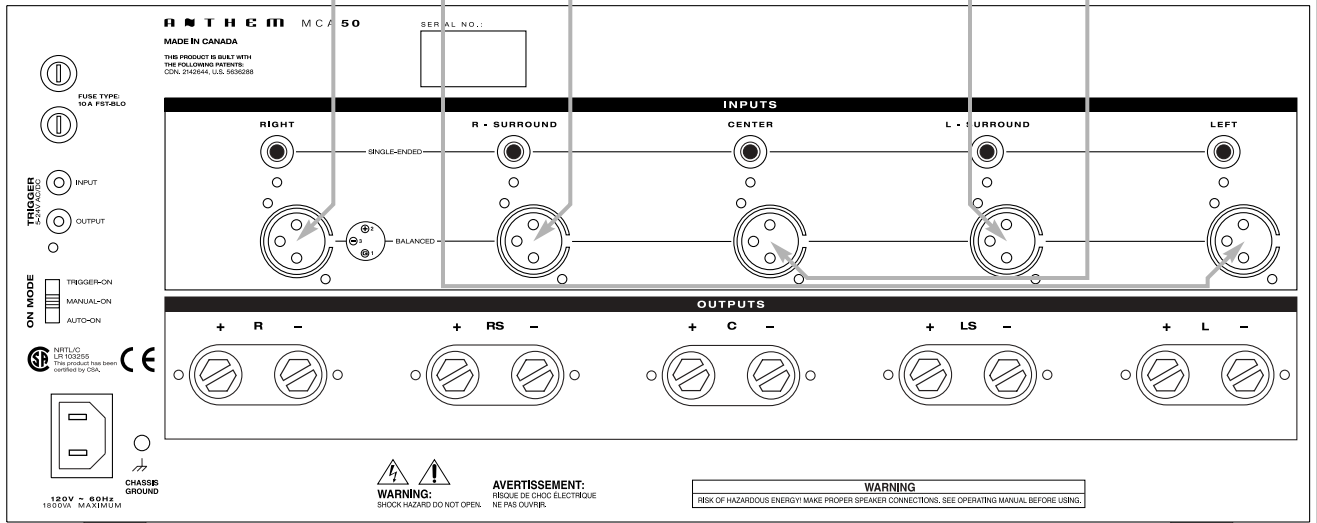


2. QUICK START continued ...

2.2.5 AVM 30 to Amplifiers and Powered Subwoofer (XLR)



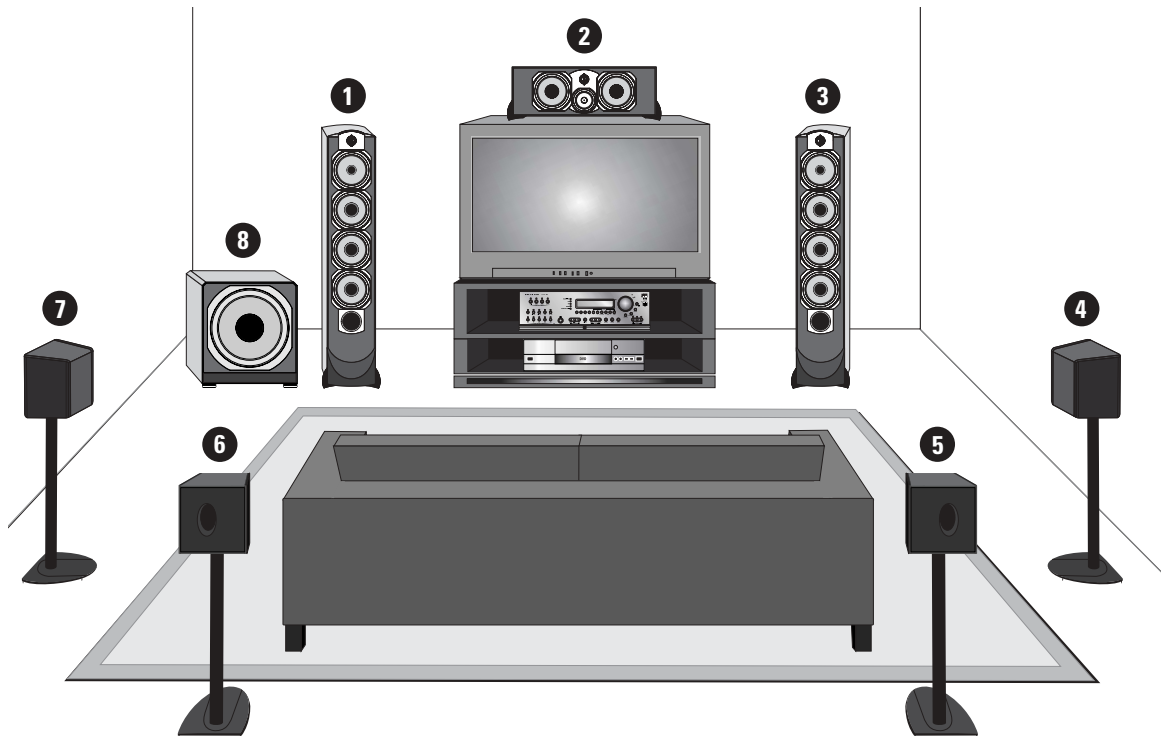
Trigger Setup Suggestion:
 If it is not necessary to have both amplifiers turned on when stereo sources are playing, set triggers to turn on only the 2-channel amplifier when a stereo source is selected (see section 7.4.9).



2. QUICK START continued ...

2.3 SPEAKER PLACEMENT

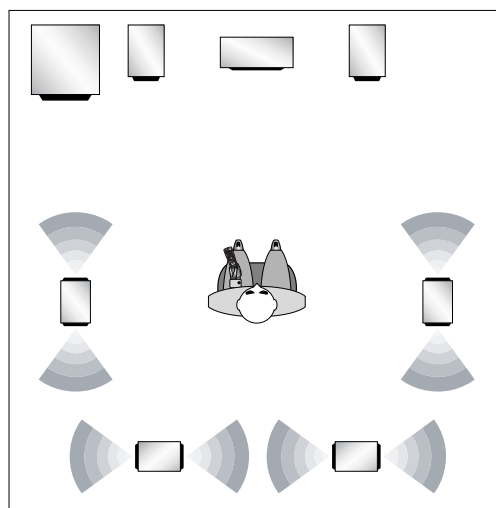
These illustrations show the typical speaker placement for a 7.1-channel surround system, the '.1' channel being the LFE (Low Frequency Effect). The Front and Center speakers are directed towards the listener from the front, while the Surround speakers are positioned to the sides, and the Rear speakers are positioned behind the listener. Ideally, the Surround and Rear speakers should be positioned 2-3 feet above ear level.



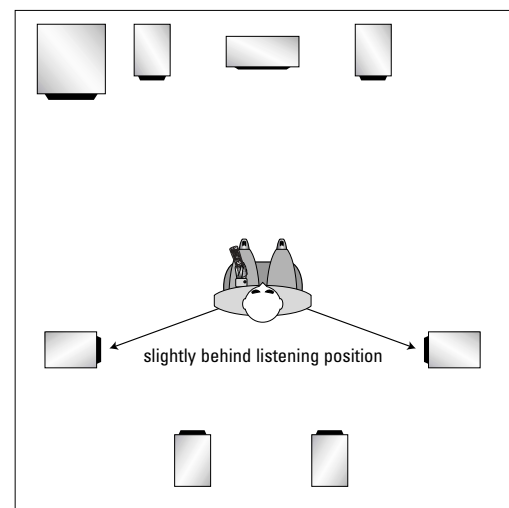
- | | | | |
|---------------|--------------------|----------------|-------------------|
| 1. Front-Left | 3. Front-Right | 5. Rear-Right* | 7. Surround-Left* |
| 2. Center | 4. Surround-Right* | 6. Rear-Left* | 8. Subwoofer |

*Dipole shown with 'null' facing listening area. Direct radiating – see diagram below.

For accurate soundstage reproduction, speaker size and distance to the listener should be entered in the Setup Menu (see sections 7.4.2, 7.4.3, and 7.4.4).



Surround Speaker Placement – Dipole

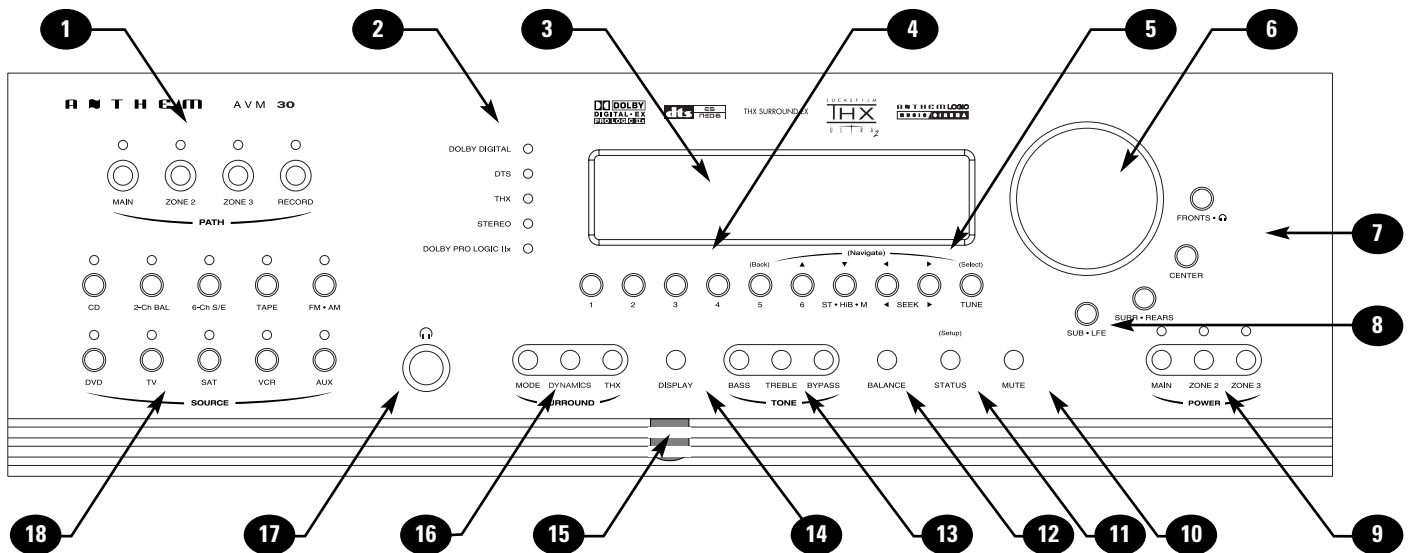


Surround Speaker Placement – Direct Radiating

3. PANELS / DISPLAY / REMOTE LAYOUT

3.1 FRONT PANEL LAYOUT

The front panel of the AVM 30 has the Master Control Knob, selection/navigation buttons, a display, status indicator LEDs, and the Headphone jack .



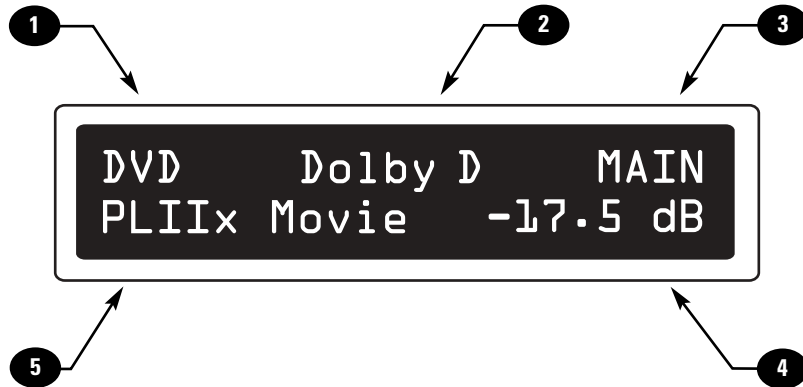
- | | |
|---|--|
| <ul style="list-style-type: none"> 1 – Path selection 2 – Mode / Surround Decoder indicators 3 – Display 4 – FM•AM Preset selection 5 – FM•AM Tuning / Setup Navigation 6 – Master Control Knob <ul style="list-style-type: none"> • <u>Volume</u> • <u>Tune</u> for FM•AM • <u>Setting Adjustment</u> for Mode; DD Dynamics; THX Options; Surround Mode Level / Bass / Treble / Balance; Path Bass / Treble / Balance; Display Brightness • <u>Setup Adjustment</u> for Letters, Numbers, and Times | <ul style="list-style-type: none"> 7 – Surround Mode / Headphone settings for Level / Bass / Treble / Balance 8 – Subwoofer / LFE Level settings 9 – Power On / Stand-By (MAIN / ZONE2 / ZONE3) 10 – Mute 11 – Status review / Setup (press and hold for 3 seconds) 12 – Balance setting 13 – Bass / Treble settings 14 – LED / Display Brightness setting (see section 7.4.10) 15 – Front Panel Remote Control IR Sensor 16 – Surround Mode / Dynamics / THX Options settings 17 – Headphone Jack 18 – Source selection |
|---|--|

See section 5 for complete information on Front Panel operation.

3. PANELS / DISPLAY / REMOTE LAYOUT continued ...

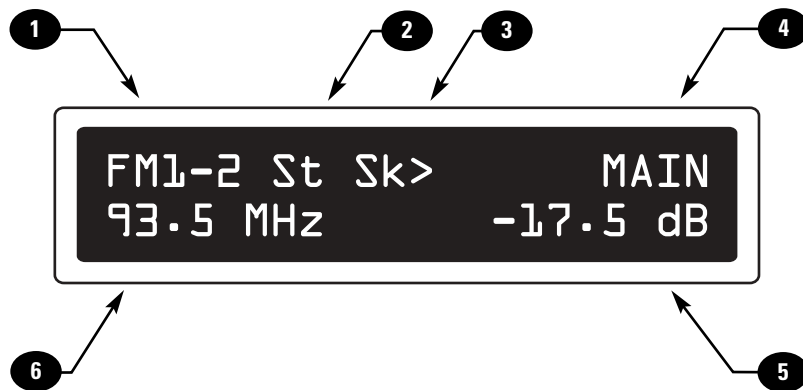
3.2 FRONT PANEL DISPLAY

MAIN Display Example:



- 1 – Source selection (see section 5.4).
- 2 – Audio Input Format (see section 7.4.5) or Sleep Indicator if engaged (see section 6.5).
- 3 – Path that the information on the display refers to (see section 5.2).
- 4 – Volume setting. When MAIN, ZONE2, or ZONE3 are muted, “Muted” flashes instead of the current volume setting (see section 5.5).
- 5 – Surround Mode (if the Source is FM•AM, then the tuned station appears).

FM•AM Display Example:



- 1 – Source+Band. The tuner has three FM bands (FM1, FM2, and FM3) and one AM band. The number after the selected band is the preset station (see section 5.4.2).
- 2 – FM mode. Displays “St” when in stereo, “HB” when Hi-Blend is selected, or “Mn” when in mono or mono is selected (see section 5.4.2).
- 3 – Seek when tuning FM•AM stations (see section 5.4.2).
- 4 – Path (see section 5.2).
- 5 – Volume setting. When MAIN, ZONE2, or ZONE3 are muted, “Muted” flashes instead of the current volume setting (see section 5.5).
- 6 – Currently tuned FM•AM frequency to the nearest 0.1 MHz for FM and to nearest 10 kHz for AM (see section 5.4.2).

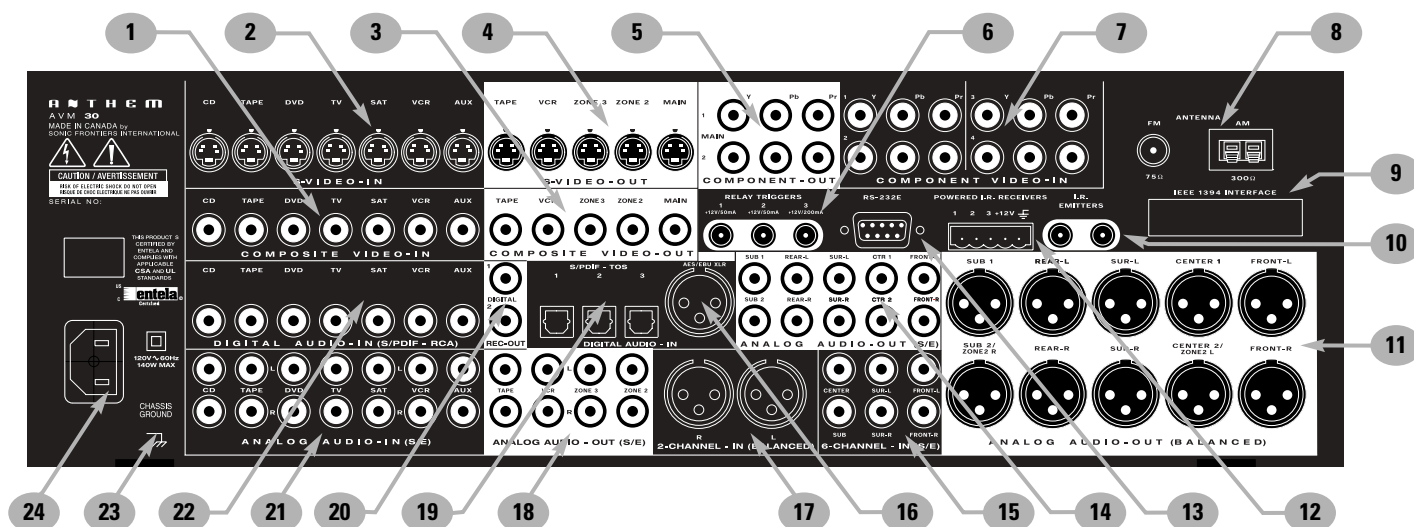
If changes take place simultaneously in different Paths, the hierarchy of the display info is:

- 1) Volume changes, 2) Front Panel activity, 3) MAIN, 4) ZONE2, 5) ZONE3, 6) RECORD, 7) HEADPHONE.

3. PANELS / DISPLAY / REMOTE LAYOUT continued ...

3.3 REAR PANEL LAYOUT

The rear panel of the AVM 30 contains all connections, such as power connection, audio and video inputs and outputs, antenna connections, and the RS-232 port which allows software upgrades and external control of the AVM 30.



- | | |
|---|--|
| <ul style="list-style-type: none"> 1 – 7 Composite Video RCA Inputs 2 – 7 S-Video Inputs 3 – 5 Composite Video RCA Outputs 4 – 5 S-Video Outputs 5 – 2 Component Video Outputs (3 Jacks/ea) 6 – 3 Relay Trigger 3.5mm Outputs (Assignable) 7 – 4 Assignable Component Video Inputs (3 Jacks/ea) 8 – FM and AM Antenna Inputs 9 – IEEE 1394/PHAST Interface provision* 10 – 2 I.R. Emitters 11 – MAIN Analog Audio Balanced XLR Output (10 Jacks) 12 – 3 12V powered Infra Red (IR) 3.5mm Inputs | <ul style="list-style-type: none"> 13 – RS-232 Interface Port (Bi-Directional) 14 – MAIN Analog Audio RCA Output (10 Jacks) 15 – Analog Audio 6-Channel RCA Input (6 Jacks) 16 – Digital Audio AES / EBU Input (Assignable) 17 – Analog Audio 2-Channel XLR Input (2 Jacks) 18 – ZONE2, ZONE3, and REC Analog Audio RCA Outputs 19 – 3 Digital Audio Toslink Inputs (Assignable) 20 – 2 Digital Audio RCA REC Outputs 21 – 7 Analog Audio RCA Inputs (L/R Jacks) 22 – 7 Digital Audio RCA Inputs 23 – Ground Terminal 24 – Power Cord Connection |
|---|--|

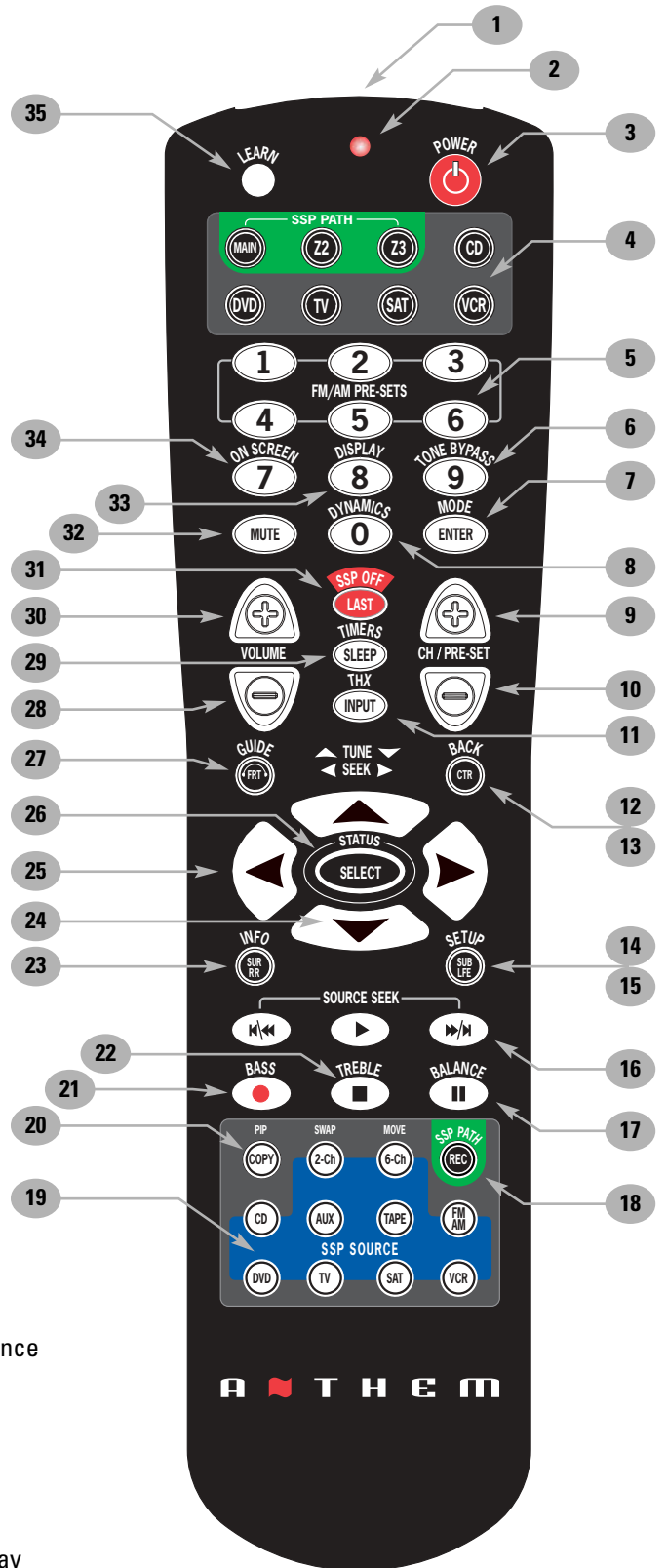
* Interface card requires installation by a qualified dealer.

See section 4 for complete information on Rear Panel connections.

3. PANELS / DISPLAY / REMOTE LAYOUT continued ...

3.4 REMOTE CONTROL LAYOUT

- 1 – IR Transmitter (front face)
- 2 – Transmission Indicator LED (red)
- 3 – Power ON when in MAIN, ZONE2, or ZONE3 personality
Power ON/OFF for other components (see #4)
Note: This does not turn the AVM 30 off (see #31)
- 4 – Path / Component 'Personality' selection
- 5 – FM•AM Preset selection (6)
- 6 – Selects Tone Bypass
- 7 – Mode setting
- 8 – Dynamics setting
- 9 – FM•AM Preset Station Up
- 10 – FM•AM Preset Station Down
- 11 – THX Options settings
- 12 – Center Channel setting for Level / Bass / Treble
- 13 – Back (for Setup)
- 14 – Subwoofer / LFE Level settings
- 15 – Setup (Press & Hold for 3 seconds)
- 16 – Source Seek
- 17 – Balance setting
- 18 – RECORD Path selection (Must be in MAIN – see #4)
- 19 – Source selection (10 inputs)
- 20 – Copy MAIN when ZONE2, ZONE3, or RECORD is selected
- 21 – Bass setting
- 22 – Treble setting
- 23 – Surrounds / Rears setting for Level / Bass / Treble / Balance
- 24 – ◆ • Tune for FM•AM
 - Setting Adjustment for Mode; DD Dynamics; THX Options; Surround Mode Level / Bass / Treble; Path Bass / Treble; Timers; Display Brightness
 - Navigation for Setup
- 25 – ◆• Seek for FM•AM
 - Setting Adjustment for Surround Mode Balance; Path Balance
 - Navigation for Setup (North / South / East / West)
- 26 – Status / FM•AM Direct Entry / Setup selection
- 27 – Fronts / Headphones setting for Level / Bass / Treble / Balance
- 28 – Volume Down
- 29 – Sleep Timer selection / Timers setting
- 30 – Volume Up
- 31 – Power OFF when in MAIN, ZONE2, or ZONE3 personality
- 32 – Mute
- 33 – Front Panel LED / Display Brightness setting / Lip-Sync Delay
- 34 – On-Screen Display
- 35 – Learn (for customization of remote)



See section 6 for complete information on operation of the Remote Control.

4. CONNECTIONS

4.1 CONNECTING POWER TO THE AVM 30

Connect the power cord to the back of the AVM 30 and then to a 105 to 130 Volt, 60 Hz AC outlet.

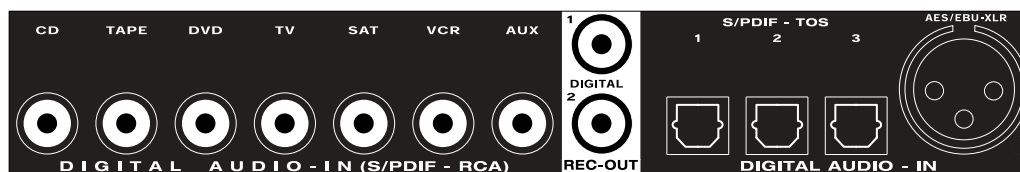
4.2 AUDIO CONNECTIONS

There are two methods of transmitting audio signals: Analog and Digital. Analog is an electrical waveform representation of sound and requires one cable for each channel. Digital represents sound using a sequence of numbers and requires only one cable for all channels.

Every audio input in the AVM 30 can be changed from the factory setting to either Digital or Analog, except 2-Ch BAL and 6-Ch S/E, which accept analog signals only (see section 7.4.5).

4.2.1 DIGITAL AUDIO INPUTS AND OUTPUTS

Digital Audio-In connections are made through a coaxial (RCA), optical (TOS), or balanced (XLR) cable. From the factory, DVD and SAT are set to Digital-RCA, whereas CD, TAPE, TV, VCR, and AUX are set to Analog-DSP.



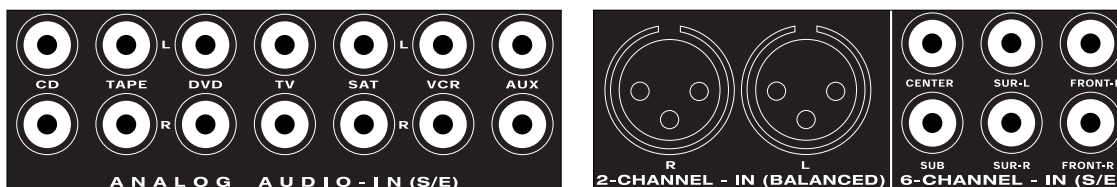
The highest transmission quality is achieved with the AES/EBU connection. The AVM 30 provides one such input. The S/PDIF-RCA connection offers the next best digital transmission – use for source components with digital RCA outputs. For source components with Toslink outputs only, use S/PDIF-TOS. Any digital input may be assigned to any number of Sources that are set to ‘Digital’ (see section 7.4.5).

Note: An external RF demodulator is required if using a Laser Disc player with Dolby Digital/AC-3.

Digital Rec-Out can provide a signal to the digital audio input of a Mini Disc recorder, CD-R, etc., from any Source set to ‘Digital’ or ‘Anlg-DSP’ (see sections 7.4.5 and 7.4.7).

4.2.2 ANALOG AUDIO INPUTS

Left/Right Analog audio connections are made through a pair of interconnect cables – typically white or black for the Left channel and red for the Right channel.



Note: Connect both the digital and analog outputs from source components that have both types of connection (e.g. DVD player) – ZONE2, ZONE3, and RECORD require analog audio connection unless set to ‘copy’ MAIN (see sections 5.2.1 and 7.4.5).

Caution for DTS: With DTS-CDs or DTS Laser Discs, do not use analog connection if your player does not have the DTS logo on its faceplate, otherwise a loud noise will be produced at the analog outputs of the player. Players that have the DTS logo can pass a DTS-encoded signal through their digital outputs, though they do often require a change in their setup menu to enable it (see player’s operating manual).

4. CONNECTIONS continued ...

4.2.3 2-Ch BALANCED AND 6-Ch SINGLE-ENDED (S/E) ANALOG AUDIO INPUTS

The 6-Ch S/E input is intended primarily for DVD-Audio and multichannel SACD players. If unused for this purpose, the Front-Left and Front-Right connections can be used as an additional 2-channel input.

Note: When 6-Ch S/E is selected as the Source, the video signal from the **DVD** input will be routed to the video outputs – connect your player's video output to the DVD input (sections 4.3 and 7.4.5).

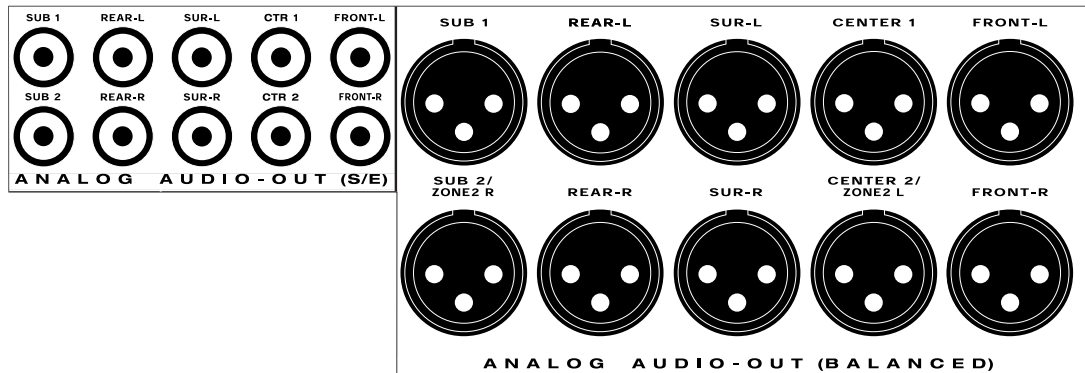
The 2-Ch BAL and 6-Ch S/E inputs can be set to either bypass all digital stages in the AVM 30 or to include digital stages, so that bass management, time alignment, surround modes, lip-sync delay, bass/treble control, and THX post-processing can be enabled (see sections 5.7, 5.8, 7.4.2, and 7.4.5).

4.2.4 ANALOG AUDIO OUTPUTS

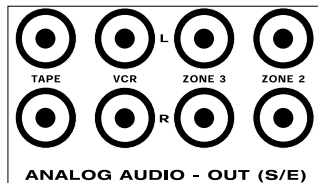
Balanced XLR connection offers the highest transmission quality, particularly over long cable lengths, because it rejects noise and hum pickup. In the AVM 30, XLR output voltage is twice that of RCA output voltage (or 6 dB higher). If your amplifier does not have balanced inputs, use Single-Ended RCA connection.

The AVM 30 also provides parallel outputs for a second Center channel and/or Subwoofer. If the Balanced SUB2 and CENTER2 outputs are not being used for this purpose, they can be re-configured to act as Balanced outputs for ZONE2 to ensure lower noise with longer cable runs (see sections 5.2 and 7.4.7).

If you're using one Rear channel, use the Rear-L output for it (see section 7.4.2).



The Analog Audio RECORD outputs for your tape recorder and VCR are shown below, together with the outputs for ZONE2 and ZONE3 amplifiers:



4. CONNECTIONS continued ...

4.3 VIDEO CONNECTIONS

The AVM 30 provides video switching for three formats: Composite video, S-Video, and Component video. Format translation is not performed – if only S-Video is used from your VCR, the S-Video output of the AVM 30 will be the only one with a signal to send to your TV monitor whenever the VCR Source is selected. **Always remember to select the matching video input on your TV monitor/projector.**

The choice of video format depends on the type that is available on your TV monitor/projector. If it only accepts Composite and S-Video, then there is no advantage in connecting Component video from your DVD player to the AVM 30 – S-Video connection must be used throughout the system.

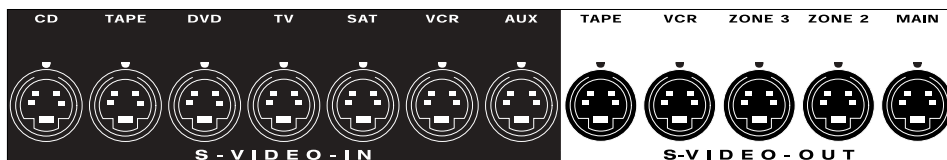
Composite Video:

This is the oldest video format. It combines the black/white and color information for transmission on a single coaxial cable with RCA connectors. These signals must then be separated again within the TV monitor by a comb filter, resulting in some loss of video quality.



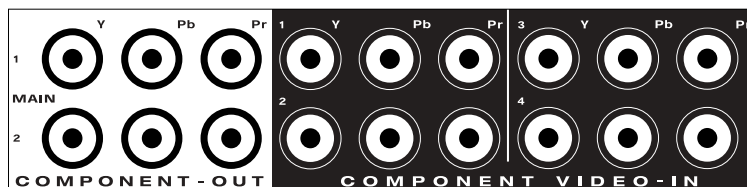
S-Video:

S-Video gives better video quality by transmitting color and brightness separately, using a multi-conductor cable with S-Video connectors (5-pin Mini DIN).



Component Video:

Component video is transmitted over three coaxial cables, is capable of progressive scan mode, and produces the highest video quality. The AVM 30 has four assignable Component video inputs. Note that all 3-wire connections must be made (Y, Pb, Pr). Component-In and Component-Out are compatible with HDTV, all the way up to 1080p.

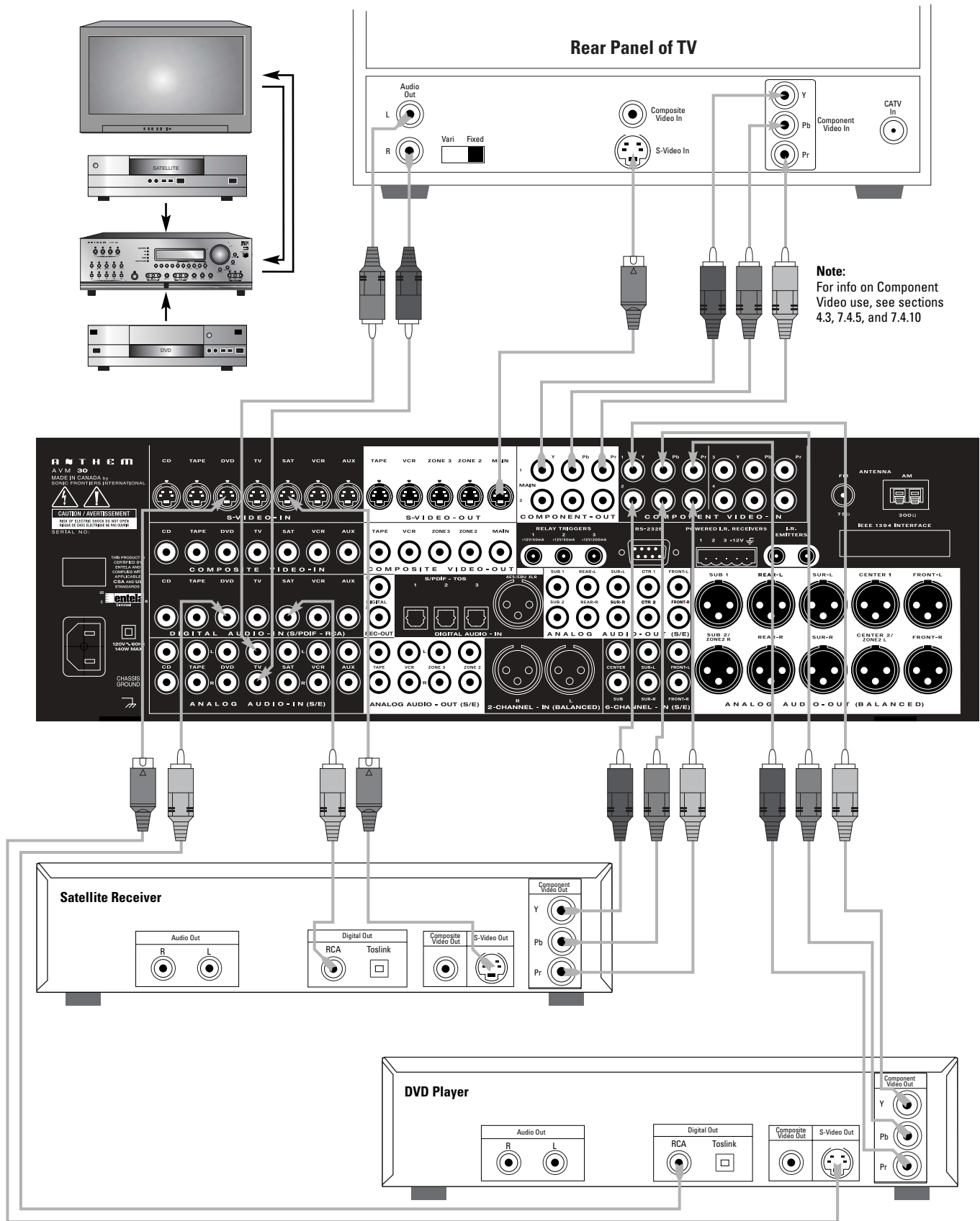


Note: Factory default settings are DVD for Component1 and SAT for Component2 (see section 7.4.5).

The On-Screen Display is available in MAIN and ZONE2 when Composite or S-Video connections are used. The AVM 30 does not provide On-Screen Display for the Component video output. If you use Component video, make sure either Composite or S-Video output is also connected from the AVM 30 to your TV. You can then change to that TV input to view the Setup Menu and make changes more conveniently (see section 7).

4. CONNECTIONS continued...

DVD Player, Satellite Receiver, and TV Connections with AVM 30 as Video Input Selector

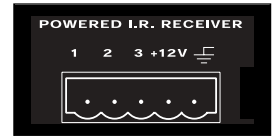
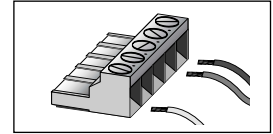


4. CONNECTIONS continued ...

4.4 POWERED I.R. (INFRA RED) RECEIVERS

External IR repeaters allow the Remote Control to be used from other locations in your home. Once a repeater is wired to a selected room, connect it to one of the three I.R. RECEIVER inputs through the removable terminal block. To use the terminal block, remove it from the AVM 30, loosen the proper screw, insert the wire in the slot, tighten the screw onto the wire, and insert the terminal block into the AVM 30. See section 7.4.9 for Setup information.

In addition, there is no need for an external 12V supply to power the repeaters – use the AVM 30's built-in supply instead for up to three repeaters, and connect according to the repeater manufacturer's instructions.



Note: For installers – The AVM 30's IR inputs sense modulated 38 kHz carrier, not demodulated data. With some control systems, an emitter face-to-face with an IR repeater may be needed.

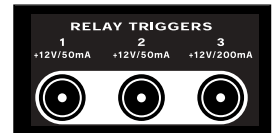
4.5 I.R. (INFRA RED) EMITTERS

External IR emitters, also known as flashers, allow control of your source components from any location in your home that has an IR repeater wired to the back of the AVM 30. Position a flasher in front of the source components and connect to one of the two I.R. EMITTER outputs – IR commands coming in through the rear I.R. RECEIVER inputs are re-transmitted through the flashers.



4.6 RELAY TRIGGERS

If your other components have provisions for a trigger, you can automatically turn them on and off together with the AVM 30, or when a specified Source is selected. Connect a trigger output from the AVM 30 to the trigger input of your power amplifier, TV monitor, etc., using a cable with 3.5mm mono mini plugs.

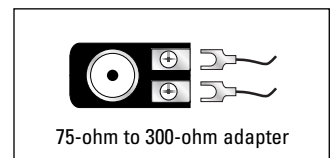


Trigger3 is designed to provide the extra current (up to 200 mA) required by relays in larger projectors and motorized screens. Depending on the equipment, a thicker wire gauge may be required (consult your dealer).

The AVM 30 provides flexible trigger options. From the factory, all the triggers are disabled. Through the Setup Menu, the conditions for enabling triggers can be specified (see section 7.4.9).

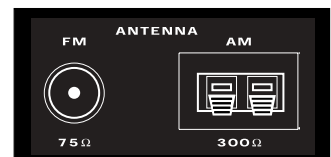
4.7 FM•AM ANTENNAS

To connect the FM antenna, first connect the two antenna wires to the screw terminals of the 75-ohm to 300-ohm adapter. Then connect the adapter to the FM ANTENNA connector on the AVM 30. If your local cable company provides FM service, connect the cable directly to the AVM 30 instead of using the adapter.



To connect the AM loop antenna, press the spring-loaded tabs of the AM ANTENNA connector, insert the bare ends of the wire from the loop antenna and release the tabs.

Once both antennas are connected, move each of them around until best reception is found. For the FM antenna, this will usually be in a "T" formation.



5. FRONT PANEL OPERATION

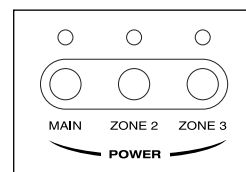
The AVM 30 is best understood as a piece of equipment that contains three control components in one chassis. Path best describes how this tremendous flexibility of the AVM 30 is arranged:

- It is first of all a state-of-the-art Music and Home Theater Preamp/Processor/Tuner (MAIN Path) with independent Source selection for recording (RECORD Path).
- It is also a high-end Whole House Entertainment Control Center that allows you to direct and adjust the output of a variety of source components to other rooms in your home (ZONE2 and ZONE3 Paths).

5.1 POWER ON/OFF

When turned on, the AVM 30 comes on at the pre-programmed volume setting (see section 7.4.8). **Always turn the power amplifier on last to prevent 'turn-on pops' when other components are turned on.**

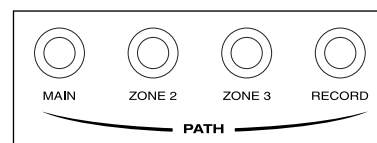
- **MAIN On:** There are various ways:
 - Press **MAIN** in the POWER group (fig. right) or PATH group (fig. below).
 - If ZONE2 and ZONE3 are off, press **any SOURCE**, FM•AM preset (1 through 6), or **TUNE** to immediately power-on MAIN.
- **ZONE2 or ZONE3 On:** Press **ZONE2** or **ZONE3** in the POWER or PATH group.
- **RECORD On:** Press **RECORD** in PATH group. MAIN will turn on simultaneously if not already on. The Front Panel Display will show MAIN Path information (see highlighted notation in section 5.2).
- **MAIN or ZONE2 or ZONE3 Off:** Press **MAIN** or **ZONE2** or **ZONE3** in the POWER group.
- **RECORD Off:** Press **MAIN** in the POWER group. This turns off MAIN and RECORD simultaneously.



5.2 PATH SELECTION

Path routes Sources to the MAIN, ZONE2, ZONE3, or RECORD outputs.

- **MAIN:** As the name suggests, MAIN routes the audio/video sources to your main listening/viewing room, with outputs for your MAIN TV monitor and 7.1-channel audio.
- **ZONE2 and ZONE3:** Routes any audio/video source to other listening/viewing rooms in your home. The chosen Source can be either the same or different from the Source selected in other paths. ZONE2 and ZONE3 each have outputs for a TV monitor and 2-channel audio. **To listen to a Source that doesn't have L/R Analog Audio-In connected, you must 'copy' it from MAIN (see section 5.2.1).**
- **RECORD:** Allows you to record audio/video sources independently of what is selected in other paths. Composite and S-Video, and fixed-level analog audio outputs are available for your tape recorder and VCR. In addition, there are two configurable coaxial digital outputs: DIGITAL1 can be set to output the audio of any digital Source, or convert an analog Source to digital (must be set to Anlg-DSP in the Setup). DIGITAL2 can be set to output the same signal as DIGITAL1, or any of the Sources set to Digital. See sections 7.4.5 and 7.4.7 for an explanation on how to set input and output formats. **As with Zones 2 and 3, RECORD has output only when L/R Analog Audio-In is connected, or when MAIN is 'copied' (see section 5.2.1).**



The AVM 30 automatically returns to MAIN a few seconds after an adjustment is made in ZONE2, ZONE3, RECORD, or HEADPHONE*. This is designed to prevent accidents. Say, for example, someone enters the MAIN room and turns up the volume – if the AVM 30 stayed in ZONE2, then the volume would increase in ZONE2, not MAIN. Since the person adjusting the volume doesn't hear any change, chances are he or she would just keep turning it up and wonder what's wrong, until something potentially 'bad' happens in ZONE2. If you've seen "The Party" and remember the hilarious scene where Peter Sellers messes with the console, you probably understand. The timeout setting can be changed in the Setup (see section 7.4.10).

* Except when MAIN is off or HEADPHONE is set to 'Mute' the MAIN speakers (see section 7.4.8).

5. FRONT PANEL OPERATION continued ...

5.2.1 COPYING THE MAIN PATH TO ZONE2, ZONE3, OR RECORD

This unique copy feature allows the Source selected in MAIN to also be directed to ZONE2, ZONE3, or RECORD from either analog or digital inputs.

If a source component's audio is connected to the AVM 30 using digital connection only, then the Copy function is the only way to deliver the sound to another Path.

To set Copy mode using the Front Panel, press **MAIN** simultaneously with **ZONE2**, **ZONE3**, or **REC**, and use **MAIN** to make your Source selections (for remote control operation, see section 6).

When MAIN is copied, the display for the other Paths reads “–MAIN→ ZONE2” (or ZONE3 or REC), along with the information normally displayed. Copy can also be set permanently – see section 7.4.5.

Down-Mixing to 2-Channel Stereo:

The Center, Surround, and Rear channels can be mixed into the Left and Right Channels for the ZONE2, ZONE3, TAPE, and VCR outputs. This can be done by the DVD player or the AVM 30:

- **AVM 30 Down-mix:** If the digital audio output from your DVD player is connected to the AVM 30, the 2-channel down-mix from Dolby Digital or DTS will be done by the AVM 30 whenever you copy MAIN to another Path. The same applies to 6-Ch S/E input (section 5.4.1).
- **DVD Player Down-mix:** If the Left/Right analog outputs from your DVD player are connected to the AVM 30's Analog Audio-In, the Dolby Digital down-mix done by your DVD player can be used for ZONE2, ZONE3, TAPE, and VCR outputs, without having to copy MAIN. Note that DVD players do not normally provide a down-mix for DTS material.

Note: Even if L/R Analog is connected, keep the digital output from your DVD player connected to the AVM 30, otherwise MAIN has no way of receiving Dolby Digital and DTS.

5.3 MASTER CONTROL KNOB

Besides being a Volume Control, the MASTER CONTROL KNOB also operates many other functions, including adjustment of Surround Mode Level / Bass / Treble / Balance, Path Bass / Treble / Balance, FM•AM tuning, Mode selection, THX options, Dynamics adjustment, and Display Brightness selection.

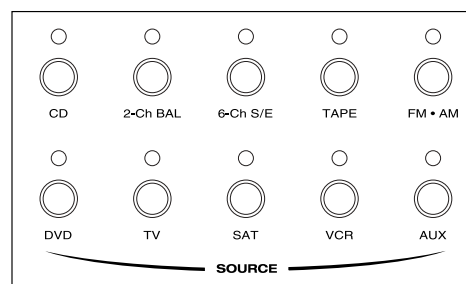
From this point in the manual, the MASTER CONTROL KNOB (MCK) will be referred to extensively.

5.4 SOURCE SELECTION

The AVM 30 accommodates up to nine external sources plus the built-in FM•AM Stereo Tuner.

The Sources on the front panel are: CD, 2-Ch BAL, 6-Ch S/E, TAPE, FM•AM, DVD, TV, SAT, VCR, and AUX.

You can also change the Source name as it appears on the Front Panel and On-Screen displays (see section 7.4.5).



5.4.1 6-CHANNEL S/E INPUT

For the most part, the 6-Channel S/E input is intended for multichannel DVD-Audio and SACD players. If unused for 6-channel audio, the Front-Left and Front-Right inputs can be used as an extra 2-channel input.

When the 6-Channel S/E input is selected, the video signal from the DVD input will be routed to the Composite, S-Video, and MAIN Component (if assigned to DVD – see section 7.4.5) outputs to allow track selection and navigation of the disc's menu. The 6-Ch S/E audio can be routed to ZONE2, ZONE3, and RECORD outputs as long as Copy mode, which creates the stereo down-mix, is used (see section 5.2.1).

5. FRONT PANEL OPERATION continued ...

5.4.2 FM•AM TUNER

The AVM 30 has a built-in FM•AM tuner, which is common to all Paths. The station that is selected in either MAIN, ZONE2, ZONE3, or RECORD is automatically shared with all other Paths.

Manual Tuning:

Select the desired band by pressing **FM • AM**, then press **TUNE** and rotate the Master Control Knob.

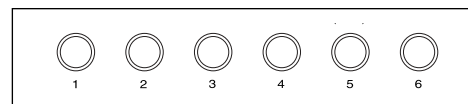


Automatic Tuning:

To automatically find the next station, press **◀ SEEK** or **SEEK ▶**. To scan and listen to all available radio stations for a few seconds, press and hold **◀ SEEK** or **SEEK ▶** for about a second. The '**◀ Sk**' or '**Sk ▶**' indicator on the display will change to '**◀ Prv**' or '**Next ▶**'. To stop scanning, press one of the **◀ SEEK ▶** buttons to return to Seek mode, or press **TUNE** to tune manually. Press **TUNE** a second time to restore the regular functions and display (the TUNE function does not time out).

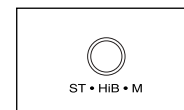
Presets:

18 FM and 6 AM stations can be stored in the AVM 30. The presets are divided into four banks of six. By repeatedly pressing **FM • AM**, the display will show that you are cycling through 'FM1', 'FM2', 'FM3', 'AM'. Once you have selected the desired bank, you can store the currently tuned radio station by pressing and holding one of the six preset keys (**1** through **6**) for about a second. You can even do this while scanning for stations. The lower line of the display briefly flashes once the station is stored. To recall a preset, select the bank that it is in, then press the respective preset key. To skip a preset, set it to 87.5 FM or 530 AM.



ST / HiB / M:

If FM reception is weak, switching a station out of stereo can reduce or eliminate unwanted hiss and noise. Press **ST / HiB / M** repeatedly to cycle through Stereo, Hi-Blend, or Mono. Hi-Blend offers an alternative to Mono, offering decreased noise without the complete loss of stereo – it decreases hiss and noise by reducing some stereo separation only at higher frequencies. The setting is memorized individually for each preset.



5.4.3 SIMULCAST

The AVM 30's Simulcast feature allows you to select an alternate audio Source to combine with the currently selected video Source. For example, you could view a sports event on TV while listening to your favorite FM/AM station. Simulcast is available for all Paths.

To change the audio Source without changing the currently selected video Source (e.g. TV), simply press and hold the desired video Source button for 2 seconds. The display will show the video Source (top line), audio Source and Path (bottom line), for the duration of the Function Timeout (see section 7.4.10) – press another Source button (e.g. FM/AM) during this period to change the audio Source.



Once the Function Time elapses, the regular display will return, but there will be a '+' beside the displayed audio Source to indicate Simulcast mode, and the Source Selection LED will still indicate the video Source.

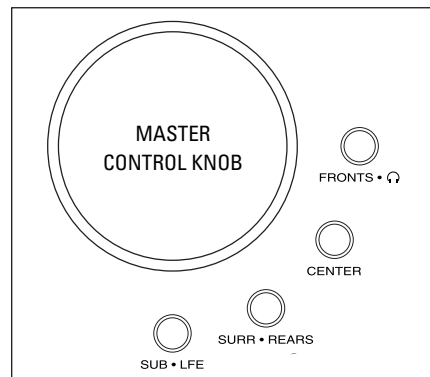
To exit Simulcast mode, after the Function Timeout elapses, press and release any Source button (e.g. TV) – both the audio and video will switch to this selection. Note that video inputs can also be permanently assigned – see section 7.4.5.

5. FRONT PANEL OPERATION continued ...

5.5 VOLUME CONTROL

The volume of each Path is controlled separately.

- **MAIN:** Adjust using the Master Control Knob. If your speaker levels have been calibrated to 75 dB SPL, the THX Reference Level for movie playback is 0 dB, the level at which the film was originally presented in movie theaters (see Dialog Normalization and section 7.4.4).
- **ZONE2 or ZONE3:** Press ZONE2 or ZONE3, then adjust.
- **HEADPHONE:** Check that the display reads MAIN, press FRONTS twice, then adjust. MAIN can be set to mute whenever headphones are inserted (see section 7.4.8).



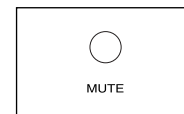
Dialog Normalization:

Dolby Digital program material contains non-audio data which the AVM 30 uses to adjust playback level, when necessary, so that volume variations between movies and programs are eliminated. Without Dialog Normalization, movies not encoded at standardized levels for the dialog could lose dynamic range – higher levels can result in distorted peaks, lower levels can result in quiet sounds disappearing into the noise floor. Dialog Normalization also ensures that Dynamics control (section 5.8.10) works as intended.

If the display reads “Dial Norm Offset -4.0 dB” at the start of a movie, it is indicating that the encoded level is higher than standard by 4.0 dB – the playback level of all channels is then automatically reduced by 4 dB.

Mute:

When MUTE is pressed, the audio of the selected Path is silenced (or reduced – see section 7.4.8). Press MUTE again, or rotate the Master Control Knob to adjust volume, and sound will return. MAIN, ZONE2, ZONE3, and Headphone are muted independently.



- **MAIN:** Press MUTE.
- **ZONE2 or ZONE3:** Press ZONE2 or ZONE3, then press MUTE.
- **HEADPHONE:** Check that the display reads MAIN, press FRONTS twice then press MUTE.

Always make sure you are in the Path that you want to adjust before changing Volume or muting.

5.6 SURROUND MODE LEVELS

The AVM 30 memorizes the level of one group of channels relative to another separately for each surround mode (section 5.8), and for the 6-Ch S/E input. To make a change for the surround mode that is currently playing and showing on the display, adjust as follows:

- **Fronts:** Press FRONTS • ↠, then adjust (this changes Left, Center, and Right levels together).
- **Center:** Press CENTER, then adjust.
- **Surrounds:** Press SURREAR • REARS, then adjust.
- **Rears:** Press SURREAR • REARS twice, then adjust.
- **Subwoofer Only:** Press SUB • LFE, then adjust. **Pressing SUB • LFE twice** allows you to reduce the level of the '.1' LFE channel while leaving the bass derived from the other channels unchanged. Certain movies exhibit prodigious levels of bass, and may need LFE adjustment.

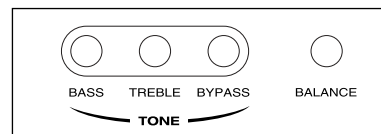
Note: When listening in Stereo (CD, FM • AM, etc.) with Front speakers set to 'Large', the Subwoofer must be set to 'Super' if you want it to play (see section 7.4.2).



5. FRONT PANEL OPERATION continued ...

5.7 BASS / TREBLE / BALANCE

MAIN, ZONE2, ZONE3, and HEADPHONE all have independent Bass/Treble and Balance adjustments.

To change the Bass, Treble, or Balance of:



- **MAIN – All Speakers Simultaneously:** Press BASS, TREBLE, or BALANCE, then adjust.
- **MAIN – Fronts Only:** Press FRONTS•, press BASS, TREBLE, or BALANCE, then adjust.
- **MAIN – Center Only:** Press CENTER, press BASS or TREBLE, then adjust.
- **MAIN – Surrounds Only:** Press SURR•REARS, press BASS, TREBLE, or BALANCE, then adjust.
- **MAIN – Rears Only:** Press SURR•REARS twice, press BASS, TREBLE, or BALANCE, then adjust.
- **ZONE2 or ZONE3:** Press ZONE2 or ZONE3, press BASS, TREBLE, or BALANCE, then adjust.
- **HEADPHONE:** Press FRONTS• twice, press BASS, TREBLE, or BALANCE, then adjust.

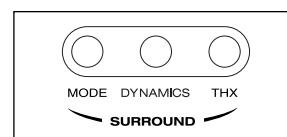
Note: Bass/Treble is not available for sources set to Anlg-Dir (see section 7.4.5).

Tone Bypass:

Pressing TONE BYPASS disables Bass/Treble in the selected Path. To enable Bass/Treble again, be certain you are in the Path that you want to adjust and press either BASS or TREBLE.

5.8 SURROUND MODES

A surround mode is signal processing that enhances original source material. There are two main types of surround modes – those that apply to **stereo** source material and those that pertain to **5.1-channel** source material.



Factory defaults for Surround Modes are set so that all of your surround speakers are used with any type of source material. To change these defaults, see Mode Presets in section 7.4.5.

Stereo Source Material:

This includes both analog stereo and digital stereo (stereo PCM or Dolby Digital 2.0) source material. Various surround modes can be applied to provide up to 7.1 channels of output. These are described in depth throughout this section. Each Source memorizes its own Mode setting, so you can, for example, set VCR to 'AnthemLogic-Cinema', and then set CD to 'AnthemLogic-Music' – when you change Source, the respective Modes are remembered.

Surround modes are not available for inputs set to Anlg-Dir (see section 7.4.5).

Regarding analog VCR input: With analog, there is no way for any processor to detect Dolby Surround encoded material. Dolby Pro Logic must therefore be turned on manually by selecting it in the Mode options.

5.1- and 6.1-Channel Source Material:

The AVM 30 detects the digital format that you select in the DVD menu (Dolby Digital or DTS) and automatically engages decoding for the selected format. Alternatively, you can select the format on-the-fly after pressing the player's remote control 'Audio' button. Note that only one format is sent over the digital connection at a time – the AVM 30 displays and decodes the one that is selected in the player.

As soon as the AVM 30's display shows the format, you can select additional processing, described throughout this section – there is usually plenty of time to do so when the film studio's logos are played at the beginning of a movie. Your selections are memorized by format and by Source as well.

Make sure your DVD player setup menu is set to leave Dolby Digital and DTS unchanged ("Bitstream"), otherwise it will have 2.0-channel PCM at the digital output instead of the 5.1 channels on the disc.

5. FRONT PANEL OPERATION continued ...

Various surround modes produce 6.1 or 7.1 channels of output. If you are using a 5.1 system and have Rears set to 'None' (Speaker Configuration menu – section 7.4.2), Rear channel information is not lost, but remains in the L/R Surround speakers.

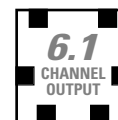
5.8.1 AnthemLogic™



These are proprietary surround modes developed by Anthem that offer outstanding surround performance and can be applied to any 2-channel source material:

AnthemLogic-Music™

AnthemLogic-Music™ enhances the stereo listening experience without detracting from the stereo soundstage. Through extensive listening tests a very effective design was developed. This is a minimalist design that uses no echo or reverberation effects which could negatively affect the purity of the sound.

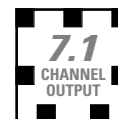


Depending on your speaker configuration, up to 6.1 channels of output are provided – L/R Fronts, L/R Surrounds, L/R Rears and Subwoofer. AnthemLogic-Music™ does not utilize the Center Channel, to ensure that the purity of the stereo music soundstage will in no way be compromised when you're sitting in the 'sweet spot' and listening to your favorite stereo recordings.

AnthemLogic-Music™ is very effective in creating an expansive musical soundstage that psychoacoustically helps to remove the barrier of the listening room itself, and it does so in a completely non-intrusive, natural and very compelling way. This is the factory default 2-channel Mode for CD, 2-Ch BAL, TAPE, and FM•AM.

AnthemLogic-Cinema™

AnthemLogic-Cinema™ provides a large, enveloping and dynamic movie listening experience that makes 2-channel movies sound more like what is experienced in a state-of-the art movie theater. Again through extensive listening tests a very effective design was developed. This is also a minimalist design that avoids the use of echo effects, which could otherwise negatively affect the purity of the sound.



AnthemLogic-Cinema™ uses the rear speakers to provide up to 7.1 channels of output, depending on your speaker configuration.

AnthemLogic-Cinema™ provides the missing link that lets you experience 7.1 channels of output for full impact home theater sound, from any 2-channel stereo analog source such as VCR or TV, or any Dolby Digital 2-channel source, such as DVD or satellite. This is the factory default Mode for DVD, TV, SAT, VCR, and AUX.

5.8.2 DOLBY DIGITAL 2.0



Dolby Digital 2.0 soundtracks with surround encoding contain a flag that can be used to automatically activate Pro Logic IIx Movie mode. The AVM 30 can be set to either use this flag or to override it.

To find out if the Dolby Digital 2.0 material being played has the surround flag, press **MODE**. If flagged, the first line of the display says 'DOLBY D 2.0 SUR AUTO' and if not flagged, it says 'MODE FOR 2 CH INPUT'.

The Modes in the next section may be selected separately for flagged and unflagged stereo source material.

Note: Movies with mono (single-channel) soundtracks use either the Left/Right channels or the Center channel depending on how they're encoded. The Mode changes to Mono if the soundtrack only uses the Center channel – you can switch it to Mono-Academy or All Channel Mono afterwards.

5. FRONT PANEL OPERATION continued ...

5.8.3 SURROUND MODES FOR 2.0-CHANNEL SOURCE MATERIAL

Number of output channels for each Mode is indicated below in bold type – ‘.1’ refers to a subwoofer signal derived through bass management, not a separate channel (see section 7.4.2). Press **MODE**, then rotate the Master Control Knob or use North/South arrows on the remote control, to cycle through the following:

THX must be Off for all Modes to be available (see section 5.8.6).

- Stereo:** No surround mode is applied.
- AnthemLogic-Music:** **6.1** – One of Anthem’s proprietary surround modes, specifically designed to expand the stereo soundstage of stereo music in a very natural way without any loss of soundstage integrity or image focus. **The Center channel is not used.**
- AnthemLogic-Cinema:** **7.1** – Another proprietary mode from Anthem, designed to provide the impact of a large theater experience from 2-channel movies and TV programs.
- Pro Logic IIx Music:** **7.1** – Created for use with stereo music material. The following three parameters can be adjusted by pressing the **MODE** button one, two, or three times while in Pro Logic IIx Music, and rotating the Master Control Knob:
Center Width is adjustable from 0 to 7 – ‘0’ places all Center sound in the Center speaker, while ‘7’ places it equally in the Left and Right channels.
Dimension helps achieve the desired front-to-back balance by providing seven steps of adjustment between the Surround and Center channels.
Panorama is effective for recordings with strong left or right channel elements. When ‘On’, it extends the front stereo image to include the Surround channels.
- Pro Logic IIx Movie:** **7.1** – Dolby Surround decoder for 2-channel movies and TV programs.
- Pro Logic IIx Matrix:** **7.1** – A matrix decoder that does not steer the image from one speaker to another.
- Pro Logic IIx Game:** **7.1** – Bass from surround effects in video games is optimized for visceral impact.
- Dolby Pro Logic:** **4.1** – In case there’s a desire to hear it “as it used to be” (Surrounds are mono).
- Neo:6 Music:** **6.1** – Can be used with stereo music material to create 6.1 output channels. The center image can be adjusted by pressing **MODE** while in Neo:6 Music, and rotating the Master Control Knob:
Center Image is adjustable from 0 to 5 – increasing the number gives more center channel prominence.
- Neo:6 Cinema:** **6.1** – A matrix decoder that can be used with any matrix-encoded movie. Separation is created by allowing various sounds to be placed at different points in the sound field simultaneously.
- All Channel Stereo:** **7.1** – The Left and Right channels are also sent to the Surround and Rear channels, while the Center channel and Subwoofer receive a combination of both. Some processing is used to retain image clarity. Useful for playing music at parties so that it can be heard with equal loudness in all parts of the room.
- All Channel Mono:** **7.1** – Combines the Left and Right channels and sends the signal to all speakers.
- Mono:** **1.1** – Combines the Left and Right channels and sends them to the Center speaker.
- Mono-Academy:** **1.1** – Gives a presentation closer to the original on movies made from the 1930s to the 1960s, which relied on high-frequency rolloff for sound balance and to mask inherent hiss. Use with old mono movies that sound overly noisy. Can also be useful with DVDs of some TV shows if high-pitched noise leakage from a CRT (cathode ray tube) monitor is audible in the recording.

5. FRONT PANEL OPERATION continued ...

5.8.4 DOLBY DIGITAL EX / PRO LOGIC IIx FOR 5.1 SOURCES



Dolby Digital EX and Pro Logic IIx can be used to decode DVDs encoded in Dolby Digital Surround EX by extracting Rear channel information from the two Surround channels. Dolby Digital EX creates a mono Rear signal, whereas with Pro Logic IIx, the two Rear channels play a stereo signal. Either one of these Modes can be applied to any other 5.1-channel material. The Rear channels may or may not be pleasing depending on the soundtrack.

A list of movies encoded in Dolby Digital Surround EX can be found on the Dolby web site at www.dolby.com and on the THX web site at www.thx.com. Newer titles contain a flag that can automatically engage Dolby Digital EX / Pro Logic IIx, whereas older titles do not. Press **MODE** when a movie starts playing and use the Master Control Knob to select the Mode that sounds best – the display says 'DOLBY D 5.1 INPUT' if the soundtrack is unflagged, and 'DOLBY D EX AUTO' if it is flagged.

5.8.5 DTS-ES



There are two ways that Rear channel information is encoded in DTS-ES – Matrix and Discrete:

- **Matrix** – DTS-ES Matrix movies contain a matrixed Rear channel. The AVM 30 automatically engages Neo:6 to decode DTS-ES Matrix. Neo:6 can also be turned on manually and applied to any other 5.1-channel material – when a movie starts playing, press **MODE** and use the Master Control Knob to select. A mono Rear channel is derived from the Left and Right Surround channels. This Rear channel may or may not be pleasing depending the soundtrack.
- **Discrete** – DTS-ES Discrete soundtracks contain 6.1 channels with an independent Rear channel. The AVM 30 automatically engages DTS-ES Discrete decoding.

5.8.6 THX ULTRA2 / THX SURROUND EX



THX is an exclusive set of standards and technologies established by the world-renowned film production company, Lucasfilm Ltd. THX grew from George Lucas' personal desire to make your experience of the film soundtrack, both in movie theaters and in your home theater, as faithful as possible to what the director intended. Movie soundtracks are mixed in special movie theaters called dubbing stages and are designed to be played back in movie theaters with similar equipment and conditions. This same soundtrack is very often transferred to DVD, Laserdisc, VHS tape, etc. without any adjustments for playback in the smaller home theater environment. THX engineers developed patented technologies to accurately translate the sound from the movie theater environment into the home, restoring proper tonal and spatial balance.

Each THX mode includes a specific combination of the following:

- **Re-Equalization** – De-emphasizes high frequencies in the front channels, and in THX Surround EX, the rear channels as well. Soundtracks commonly have pre-emphasized treble because they are mixed for movie theaters where high frequencies are usually absorbed. They can then sound overly bright when played back in the home. Re-Equalization restores the correct tonal balance for watching a movie soundtrack in a home theater environment. Some TV shows that are broadcast in Dolby Surround also benefit from Re-Equalization, whereas some movies on DVD have already been re-adjusted and do not require Re-EQ. To enable or disable Re-EQ, press **THX** twice to display "THX RE-EQUALIZATION", then select On or Off. **Re-EQ may also be applied when THX is Off** – this may be useful if the high-pitched noise produced by standard CRT monitors accidentally leaked into the audio while it was being recorded, and you would like to filter it out.
- **Timbre Matching** – The human ear changes our perception of a sound depending on the direction from which the sound is coming. In a movie theatre, there is an array of surround speakers so that the surround information is all around you. In a home theatre, you use only two speakers located to the side of your head. Timbre Matching, which includes Re-EQ, filters the information going to the surround speakers so that they more closely match the tonal characteristics of the sound coming from the front speakers. This ensures seamless panning between the front and surround speakers.

5. FRONT PANEL OPERATION continued ...

- **Adaptive Decorrelation** – In a movie theatre, a large number of surround speakers help create an enveloping surround sound experience, but in a home theatre there are usually only two speakers. Unless you are using properly positioned dipoles, surround speakers can sound like headphones that lack spaciousness and envelopment – they will also collapse into the closest speaker as you move away from the middle seating position. Adaptive Decorrelation senses the presence of identical surround channels (mono) and slightly changes one surround channel's time and phase relationship with respect to the other. This expands the listening position and creates – with only two speakers – the same spacious surround experience found in a movie theatre. Adaptive Decorrelation does not operate when the surround channels are different, as is often the case in discrete multichannel source material.
- **ASA (Advanced Speaker Array)** – ASA is a proprietary THX technology that processes the sound fed to the two surround and two rear speakers to provide an optimal surround sound experience. When you set up your home theater system using all 7.1 speaker outputs (L-Front, Center, R-Front, R-Surround, R-Rear, L-Rear, L-Surround, Subwoofer), placing the two Rear speakers close together will provide the largest sweet spot. If for practical reasons you have to place the Rear speakers further apart, you will have to go to the Listener Position menu (section 7.4.3) and choose the setting that most closely corresponds to the speaker spacing to re-optimize the surround soundfield.

Depending on source material and speaker configuration, THX processing is available as follows:

- THX Cinema:** **5.1 to 7.1** output with 2.0- and 5.1-channel movies (see overview that follows)
Processing: Re-Equalization, Timbre Matching, Adaptive Decorrelation (if applicable)
When THX Cinema is selected, Dolby Pro Logic IIx Movie is automatically engaged. Alternatively, Dolby Pro Logic or DTS Neo:6 Cinema may be selected. Other Surround Modes are not available and do not appear when pressing MODE.
- THX Ultra2 Cinema:** **7.1** output with 5.1-channel movies
Processing: Re-Equalization, Timbre Matching, Adaptive Decorrelation, ASA (Cinema)
THX Ultra2 Cinema mode plays 5.1 movies using all 7.1 speakers giving you the best possible THX movie watching experience with 5.1 program material. In this mode, ASA processing blends the L/R-Surround speakers and L/R-Rear speakers providing the optimal mix of ambient and directional surround sounds.
- THX MusicMode:** **7.1** output with 5.1-channel music (including **DVD-Audio, multichannel SACD**)
Processing: Timbre Matching, Adaptive Decorrelation, ASA (Music)
THX MusicMode can be selected when playing multi-channel music. In this mode THX ASA processing is applied to the surround channels of all 5.1 channel encoded music sources to provide a wide stable rear soundstage.
- THX Games Mode:** **7.1** output with 2.0- and 5.1-channel games
Processing: Timbre Matching, ASA (Games)
Game audio is mixed and monitored in a different environment than that of music and movies. The interactive nature of the audio requires a playback system which can provide 360 degree panning while preserving the ambient nature of background sound elements. When playing back 5.1 games, THX Games Mode may be engaged. Suitable sources are Dolby Digital 5.1 and DTS 5.1 game sources. If THX Games Mode is engaged with 2.0 input, the source is first converted to 5.1 via Pro Logic IIx Game mode.

5. FRONT PANEL OPERATION continued ...

THX Surround EX:

6.1 output with **Dolby Digital Surround EX**

Processing: Re-Equalization, Timbre Matching

THX Surround EX – Dolby Digital Surround EX is a joint development of Dolby Laboratories and the THX division of Lucasfilm Ltd.

In a movie theater, film soundtracks that have been encoded with Dolby Digital Surround EX technology are able to reproduce an extra channel which has been added during the mixing of the program. This channel (called Surround Back, but named Rear in the AVM 30), places sounds behind the listener in addition to the currently available L-Front, Center, R-Front, R-Surround, L-Surround and Subwoofer channels. This additional channel provides the opportunity for more detailed imaging behind the listener and brings more depth, spacious ambience, and sound localization than ever before.

Movies that were created using the Dolby Digital Surround EX technology may exhibit wording to that effect on the packaging when released on DVD. A list of movies created using this technology can be found on the Dolby web site at www.dolby.com. A list of DVD titles encoded with this technology can be found on the THX web site at www.thx.com.

Bearing the THX Surround EX logo, the AVM 30 will faithfully reproduce this technology in the home when in THX Surround EX mode.

The AVM 30 also allows you to engage THX Surround EX while playing 5.1-channel material that is not encoded with Dolby Digital Surround EX. The information delivered to the Rear channel will be program dependent and may or may not be pleasing depending on the soundtrack and your listening tastes.

In compliance with THX requirements, Bass/Treble, Surround Mode Level, and Balance adjustments are **reset to +0.0 dB** whenever a THX mode is selected, after which you can make adjustments with THX engaged if you wish to do so. When THX is turned 'Off', previous settings are restored, except for Balance (see sections 5.6 and 5.7). Also note that due to the nature of digital bitstreams, adjustments made while THX is engaged will be reset to +0.0 dB if the program is paused for longer than 3 seconds.

Outputs indicated are the number of output channels as follows:

6.1 = L-Front, Center, R-Front, R-Surround, Rear*, L-Surround, LFE/Subwoofer

7.1 = L-Front, Center, R-Front, R-Surround, R-Rear, L-Rear, L-Surround, LFE/Subwoofer

* If two rear speakers are used, the same Rear channel information goes to both.

5. FRONT PANEL OPERATION continued ...

THX Ultra2 Overview

Key:	Re-EQ	– De-emphasizes treble. May be turned on or off at any time after pressing THX twice.
	Timbre	– Matches the sound character, or timbre, of the surround channels to the front channels.
	Adp-Decor	– When content of L/R-Surrounds is mono, adjusts time and phase to restore spaciousness.
	ASA	– Surround and Rear channels are processed to provide a wide rear soundstage.

<u>Program</u>	<u>Decoding / Processing</u>	<u>THX Available</u>	<u>Outputs</u>	<u>THX Processing</u>
Stereo	Selected Mode	Off	up to 7.1	Off
	PLIIx Movie [†]	THX Cinema	7.1	Re-EQ, Timbre
	PLIIx Games	THX Games Mode	7.1	Timbre, ASA (Gam)
	Dolby Pro Logic	THX Cinema	5.1	Re-EQ, Timbre, Adp-Decor
	Neo:6 Cinema	THX Cinema	6.1	Re-EQ, Timbre
Dolby Digital 5.1	Dolby Digital	Off	5.1	Off
	Dolby Digital	THX Cinema	5.1	Re-EQ, Timbre, Adp-Decor
	Dolby D 5.1+PLIIx Movie	THX Cinema	7.1	Re-EQ, Timbre
	Dolby Digital	THX Ultra2 Cinema	7.1	Re-EQ, Timbre, Adp-Decor, ASA (Cin)
	Dolby Digital	THX MusicMode	7.1	Timbre, Adp-Decor, ASA (Mus)
	Dolby Digital	THX Games Mode	7.1	Timbre, ASA (Gam)
	Dolby Digital EX [*]	THX Surround EX	6.1	Re-EQ, Timbre
	Dolby D 5.1+Neo:6	THX Cinema	6.1	Re-EQ, Timbre
DTS 5.1	DTS	Off	5.1	Off
	DTS	THX Cinema	5.1	Re-EQ, Timbre, Adp-Decor
	DTS+Neo:6	THX Cinema	6.1	Re-EQ, Timbre
	DTS	THX Ultra2 Cinema	7.1	Re-EQ, Timbre, Adp-Decor, ASA (Cin)
	DTS	THX MusicMode	7.1	Timbre, Adp-Decor, ASA (Mus)
	DTS	THX Games Mode	7.1	Timbre, ASA (Gam)
	DTS+PLIIx Movie	THX Cinema	7.1	Re-EQ, Timbre
DTS-ES Matrix[§]	DTS+Neo:6	Off	6.1	Off
	DTS+Neo:6	THX Cinema	6.1	Re-EQ, Timbre
	DTS+PLIIx Movie	THX Cinema	7.1	Re-EQ, Timbre
DTS-ES Discrete[§]	DTS-ES Discrete	Off	6.1	Off
	DTS-ES Discrete	THX Cinema	6.1	Re-EQ, Timbre

† DVDs with Dolby Digital 2.0 Surround may be flagged for auto-detection.

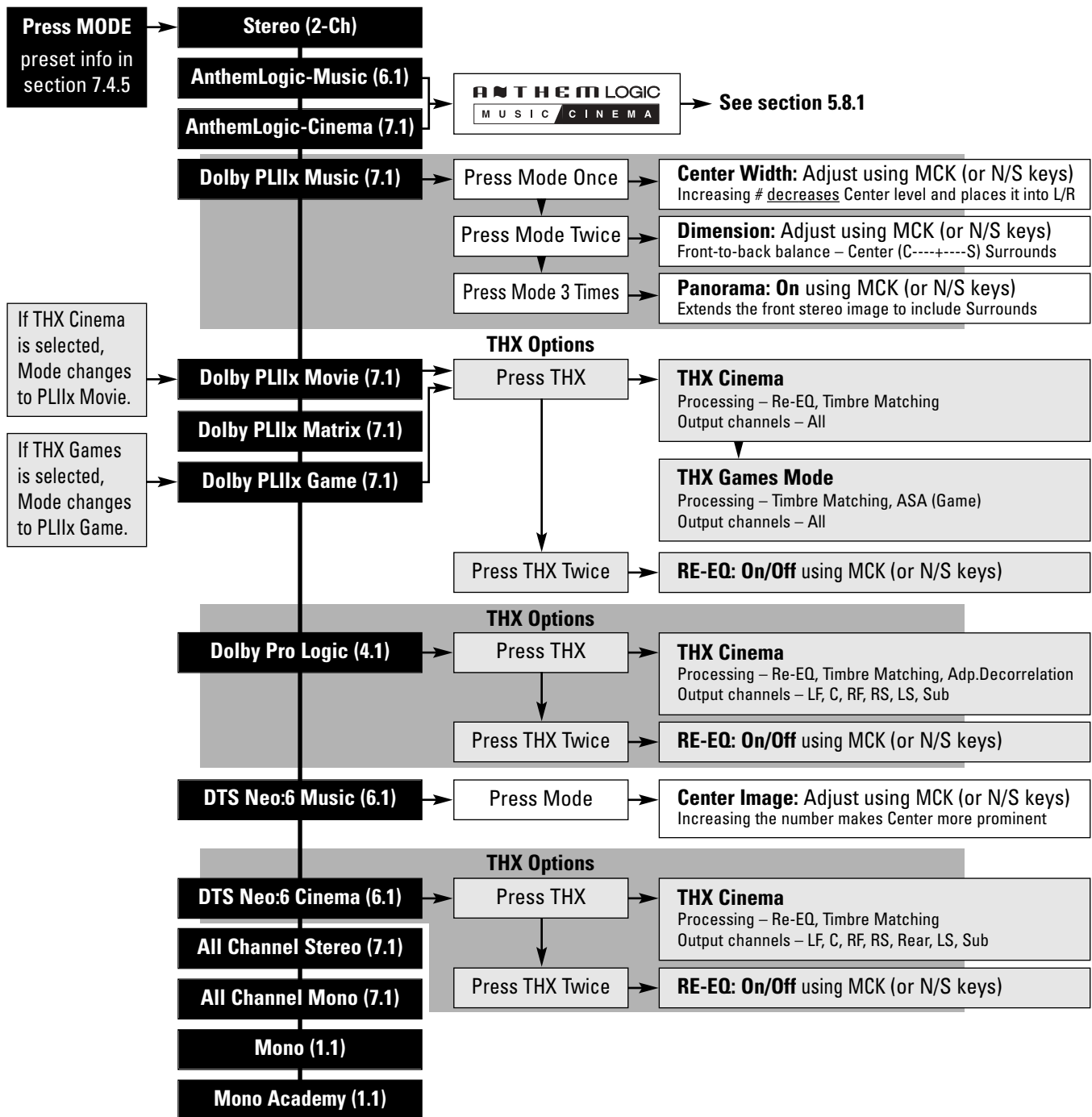
* DVDs with Dolby Digital Surround EX may be flagged for auto-detection.

§ DVDs with DTS-ES Matrix and DTS-ES Discrete are flagged for auto-detection.

5. FRONT PANEL OPERATION continued ...

5.8.7 Mode and THX Operation for Stereo Program Material – To make all Modes available, turn THX Off.

Cycle through Modes and THX using Master Control Knob (or North/South keys on remote control – see section 6).



Selections are memorized separately for each Source and for Dolby Digital Surround 2.0-flagged vs. unflagged material.

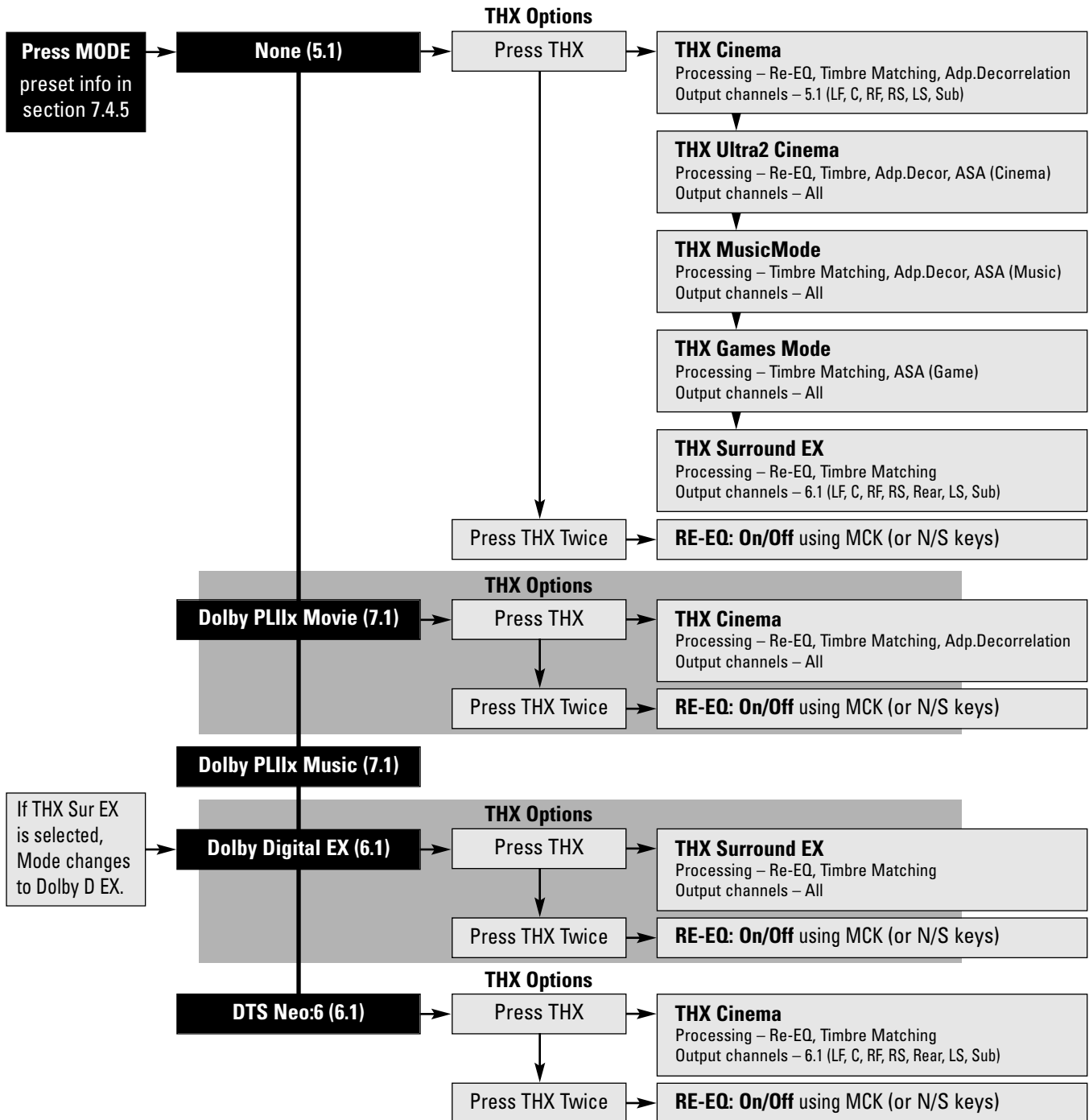
THX Processing (for complete descriptions see section 5.8.6):

- **Re-Equalization** – De-emphasizes treble. Not applicable to THX Games Mode.
- **Timbre Matching** – Matches the sound character, or timbre, of the surround channels to the front channels.
- **Adaptive Decorrelation** – When content of L/R Surrounds is mono, adjusts time and phase to restore spaciousness.
- **ASA** – Surround and Rear channels are processed to provide a wide rear soundstage.

5. FRONT PANEL OPERATION continued ...

5.8.8 Mode and THX Operation for Dolby Digital 5.1 and 6-Ch S/E – To make all Modes available, turn THX Off.

Cycle through Modes and THX using Master Control Knob (or North/South keys on remote control – see section 6).



Selections are memorized separately for each Source and for Dolby Digital Surround EX-flagged vs. unflagged material.

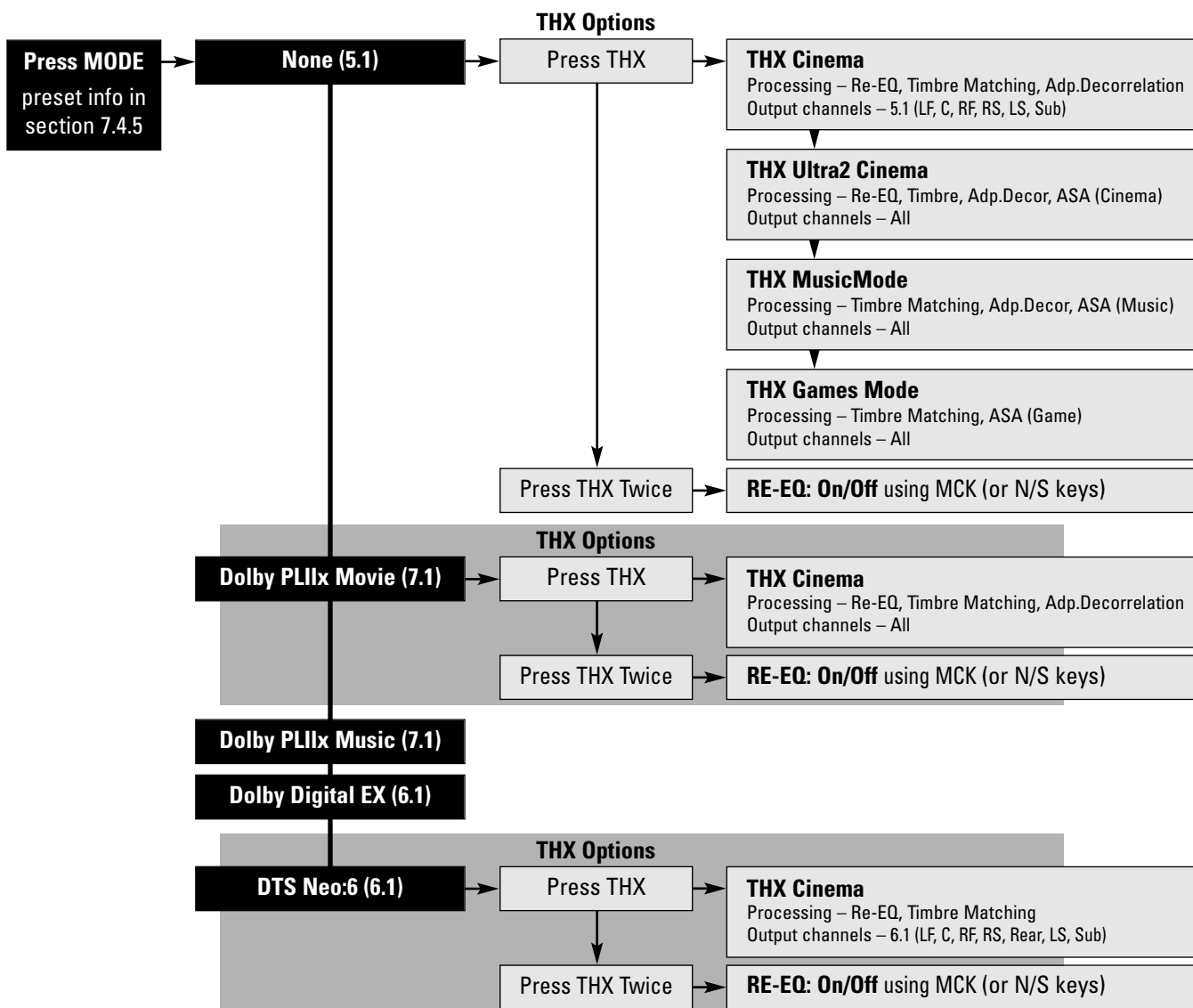
THX Processing (for complete descriptions see section 5.8.6):

- **Re-Equalization** – De-emphasizes treble. Not applicable to THX MusicMode and THX Games Mode.
- **Timbre Matching** – Matches the sound character, or timbre, of the surround channels to the front channels.
- **Adaptive Decorrelation** – When content of L/R Surrounds is mono, adjusts time and phase to restore spaciousness.
- **ASA** – Surround and Rear channels are processed to provide a wide rear soundstage.

5. FRONT PANEL OPERATION continued ...

5.8.9 Mode and THX Operation for DTS Program Material – To make all Modes available, turn THX Off.

Cycle through Modes and THX using Master Control Knob (or North/South keys on remote control – see section 6).



Selections are memorized separately for each Source and for DTS vs. DTS-ES.

DTS-ES Discrete: The only applicable selection is THX Cinema (6.1, Re-EQ, Timbre Matching).

DTS 96/24: Dolby Pro Logic IIx, Dolby Digital EX, and DTS Neo:6 can not be applied.

THX Processing (for complete descriptions see section 5.8.6):

- **Re-Equalization** – De-emphasizes treble. Not applicable to THX MusicMode and THX Games Mode.
- **Timbre Matching** – Matches the sound character, or timbre, of the surround channels to the front channels.
- **Adaptive Decorrelation** – When content of L/R Surrounds is mono, adjusts time and phase to restore spaciousness.
- **ASA** – Surround and Rear channels are processed to provide a wide rear soundstage.

5. FRONT PANEL OPERATION continued ...

5.8.10 DYNAMICS

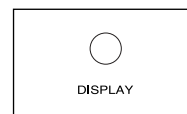
This allows you to control the difference between the softest and loudest passages on 5.1/6.1-channel soundtracks, as long as the soundtrack contains dynamic scaling information and at least 5.1 speakers are used. Press **DYNAMICS** and then use the Master Control Knob to cycle through the following settings:

- Normal:** Reproduces the full dynamic range of the recording without changing it.
- Reduced:** Allows the quieter parts to be heard more easily, and works by raising the level of quieter sounds and/or reducing the level of louder sounds.
- Late Night:** Reduces the softest-to-loudest difference even further. The quietest passages can be heard even more easily, and prevents having to hear sudden loud passages.

When you use 'Reduced' or 'Late Night', you don't need to remember to reset Dynamics back to 'Normal' because this happens automatically whenever Main power is turned off.

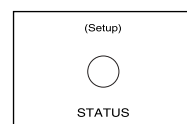
5.9 FRONT PANEL DISPLAY

The intensity of the Front Panel display and LED indicators can be changed. Press **DISPLAY** and then use the Master Control Knob to select High, Medium, Low, or Off. The High, Medium, and Low intensities, and the Front Panel Wake-Up can be modified, as can the time-to-rest when the display will dim (see section 7.4.10).



5.10 STATUS / SETUP

This button has two functions: It displays information regarding current Software, settings, and modes of operation. It also lets you access the Setup.



Status:

Press, Release, Press to cycle through display screens that show the following:

- **Software version, day, and time.**
- **Input Signal:** Bit rate / sample rate of digital source material being played, or Analog.
- **Input Format:** Shows which channels are receiving information from the selected Source.
- **Listen Format:** Which channels are producing output – depends on Audio-In Format and Mode.
- **Mode:** The surround Mode that is in use (see section 5.8).
- **DD/DTS 5.1 Dynamics:** Normal, Reduced, or Late Night.
- **Tone Controls:** Enabled or Bypassed.
- **Sleep Mode:** Enabled or Disabled (see section 6.5).
- **All Timers:** Enabled or Disabled (see section 7.4.1).
- **Serial Number:** This should match the number on the rear panel sticker and shipping carton – contact Anthem immediately if any of the numbers do not match.

When in ZONE2 or ZONE3, information related only to the selected Path is displayed.

Setup:

Press and hold for a few seconds to enter the Setup. Press **BACK** to exit. Please read section 7 before exploring the Setup.

WARNING: If you do explore the Setup, do not enter passwords without reading section 7 first.

6. REMOTE CONTROL OPERATION

Dr. Jekyll and Mr. Hyde, as you may know, were two very different personalities, even though they were the same person. Well, the AVM 30 Remote Control is the host to NINE different personalities! (All of them 'good', of course.)

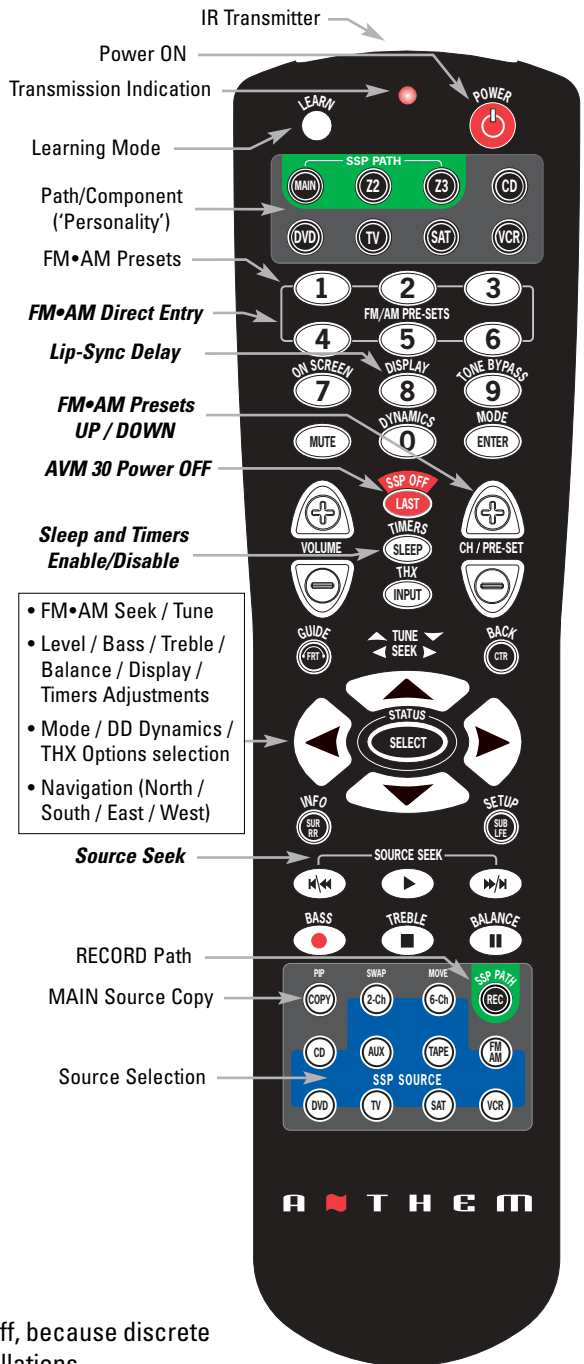
The AVM 30 Universal Learning Remote Control has all of the same functions as the front panel buttons and is operated in a similar way, but there are some differences. Please take the time to read this section to fully understand all the functions of the AVM 30 remote Control.

The keys labeled in this illustration show those that have a **different** method of operation from their front panel counterparts. Those shown in **bold italics** indicate keys that are unique to the Remote Control and not found on the Front Panel. For a detailed layout diagram see section 3.3.

To install the batteries, remove the cover that is on the bottom of the remote, and be sure that they're installed with the correct polarity. Down the road, if the keys don't light up when they're pressed, and the red LED blinks twice, it's an indication that the batteries need replacement – use only 'AA' alkaline.

Before we get started, we have to give the remote a little attitude adjustment – set the 'personality' to MAIN by pressing **MAIN** near the top of the remote.

Note: The Path/Component keys do not transmit any commands to the AVM 30, or anywhere else. They only determine where subsequent commands are sent. For example, if ZONE2 is selected followed by VOL+, then the volume changes in ZONE2 while MAIN and all other components remain unaffected.



6.1 POWERING THE AVM 30 ON AND OFF

Two separate keys are used to turn the AVM 30 On/Off, because discrete power commands are required in most custom installations.

First set **MAIN**, **ZONE2**, or **ZONE3** personality in SSP Path.



- Power ON: Press **POWER**.



- Power OFF: Press **SSP OFF**.



6. REMOTE CONTROL OPERATION continued ...

6.2 RECORD PATH SELECTION

- Make sure 'personality' is set to MAIN, press **REC**, then select Source within timeout period.



6.2.1 COPYING THE MAIN PATH TO ZONE2, ZONE3, OR RECORD

Select a MAIN Source first and for...

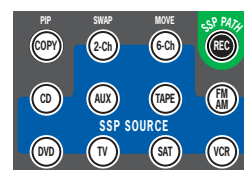
- **ZONE2** or **ZONE3**: Make sure 'personality' is set to Z2 (or Z3), then press **COPY**.
- **RECORD**: Make sure 'personality' is set to MAIN, press **REC**, then press **COPY**.



Note: The only way to send digital inputs and 6-Ch S/E input to ZONE2, ZONE3, or RECORD is through the Copy function (see sections 5.2.1 and 7.4.5).

6.3 SOURCE SELECTION

After selecting the desired Path (MAIN, ZONE2, ZONE3, or RECORD), press one of ten Source keys in the SSP SOURCE group.



6.3.1 SOURCE SEEK (Remote Control Only)

The SOURCE SEEK keys provides an easy way to find the active Sources. The ◀ ▶ keys go to the previous and next Source with a signal on it, while the ▶ key advances one Source at a time.



6.4 DIRECT FM•AM STATION ENTRY (Remote Control Only)

When using the FM•AM Tuner, the station frequency can be entered as a four-digit number. For example, to tune into 98.3 FM, press and hold **SELECT** until the display shows "<blank>0.0" in the lower left corner, then press **0, 9, 8, 3**.



6.5 SLEEP TIMER (Remote Control Only)

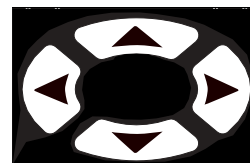
If you would like to go sleep while listening to a program or music, the Sleep Timer will automatically turn the AVM 30 power off after a preselected time. So when you find yourself falling asleep at the 'tube', take the Remote Control and:

- Select the desired Path (MAIN, ZONE2, or ZONE3), then press **SLEEP** (the Sleep timer will operate for that Path only).
- The first **SLEEP** keystroke always resets the timer to 30 minutes. Additional keystrokes then cycle as follows: Second=60, third=90, fourth=Disabled.
- Once set, the time remaining appears as the number following 'Zzz' in the display.



6.6 ENABLE / DISABLE TIMERS (Remote Control Only)

To enable or disable all timers without entering the Setup, press and hold the **SLEEP** key until the display shows 'ALL TIMERS', then use the ▲ ▼ keys to enable/disable (see section 7.4.1).



6. REMOTE CONTROL OPERATION continued ...

6.7 LIP-SYNC DELAY (Remote Control Only)

To adjust Lip-Sync Delay without entering the Setup, press and hold the **DISPLAY** key until the display shows "LIP-SYNC DELAY", then use the ◀ ▶ keys to move from digit to digit and the ▲ ▼ keys to adjust. This can be done while viewing the picture and listening to the soundtrack simultaneously (see section 7.4.5).



6.8 CONTROLLING OTHER COMPONENTS

The AVM 30 Remote Control can be set up to control your TV, DVD player, CD player, VCR, and satellite receiver. The codes for various models are in its memory – these can be entered to duplicate another remote control's functions. If the codes for your other components are not in the AVM 30 Remote Control's memory, the Learn function can be used to customize each key (see section 6.8.4).

6.8.1 ENTERING PRESET MEMORY CODES

In Appendix B at the back of this manual you will find codes for programming the AVM 30's Remote Control. If a code for your components is not listed, see section 6.8.2. To enter a code:

1. Press the Path/Component key (e.g. **DVD**).
2. Press and hold **LEARN** until the LED flashes twice.
3. Enter the **four-digit code** from Appendix B. The LED should blink twice.



Codes can **only** be used with their respective Path/Component key. For example, a VCR code can not be programmed in the DVD Path/Component key.

6.8.2 SEARCHING FOR A CODE

If a code for your component is not listed in Appendix B, you can try the following:

1. Turn the component on (e.g. the TV).
2. Press the matching Path/Component key (e.g. **TV**).
3. Press and hold **LEARN** until the LED flashes twice.
4. Press **9, 9, 1**.
5. Aim the remote towards the TV, and alternate between pressing **POWER** and **TV**.
6. Stop once the TV turns off. Immediately press and release **LEARN** to lock the code.
7. If, for future reference, you want to know what the code is, press and hold **LEARN** until the LED flashes twice and then press **9, 9, 0, 1**. Wait 3 seconds and count the number of flashes. The number of flashes represent the first digit (i.e. 3 flashes = 3, no flash = 0). Next, press **2** for the second digit, **3** for the third digit, and **4** for the fourth digit, and count the number of flashes each time. Record this code number in Appendix B for future reference.

If no code is found, see section 6.8.4.

6.8.3 VOLUME LOCK

After entering a code for your TV or satellite receiver, you may find it inconvenient to switch the Path/Component keys back and forth when you alternate between say, changing channels on your TV and adjusting the volume of MAIN (AVM 30). Not to worry, the Volume Lock feature takes care of this. When engaged, the volume keys adjust MAIN volume, regardless of which Path/Component is selected. You can then adjust the volume of the Statement D1 without having to switch Path/Component from TV to MAIN.

6. REMOTE CONTROL OPERATION continued ...

In the following example, MAIN volume is locked onto every Path/Component selection except ZONE2:

To engage Volume Lock for MAIN:

1. Press and hold **LEARN** until the LED flashes twice.
2. Press **9, 9, 3**.
3. Press **MAIN**.

At this point, the Volume and Mute keys now control MAIN, no matter which of the eight Path/Component selections the Remote Control is in. However, any individual Path/Component selection can be unlocked if necessary.

To disengage Volume Lock for ZONE2 (or ZONE3), and re-engage the ZONE2 (or ZONE3) Volume Control:

4. Press **ZONE2** (or ZONE3).
5. Press and hold **LEARN** until the LED flashes twice.
6. Press **9, 9, 3**.
7. Press **VOL-**.

The Volume and Mute keys now control MAIN for every Path/Component selection except for ZONE2. You may continue to unlock other Path/Components one at a time. To unlock all Path/Components at once and restore the default setting, press **VOL+** instead of **VOL-** in step 7.

6.8.4 LEARN FUNCTION

The AVM 30 Remote Control has the ability to learn the command of an individual key from almost any other remote control. When a new command is programmed onto a key, the original command is still available by pressing LEARN before pressing the key. We'll call this the Layer1 method.

If the original command of a particular key is used more than the learned command, it might be better to program the learned command in Layer2. This means that when a taught key is pressed, the original command functions as always, and the learned command is accessed by pressing LEARN before pressing the key. In essence, this is the reverse of the Layer1 method.

The learned commands are retained in the Path/Component selection into which they were programmed. For instance, if the ◀ ▶ ▲ ▼ navigation keys are programmed into the DVD selection, they won't perform the learned command if another Path/Component is selected.

Limitations on learning:

Before getting to the learning procedure, please read the following limitations:

- Some codes are not learnable. This includes multi-frequency codes, some high frequency codes, and other unusual formats.
- All keys, with the exception of the Path/Component keys and LEARN, can be taught.
- Typically, the memory allows up to 24 keys to be taught.
- The Remote can learn only one code per key. It can not be taught a sequence of several keystrokes on one key.
- In general, we recommend that you do not teach the Record key. The Record key, almost always, requires a double key press (Rec+Pause or Rec+Play). The double key press will be lost when the Record key is involved in most learning operations. This lack of consistency does not always allow for proper function and is best avoided.
- The Source Remote and the AVM 30 Remote should be 1 to 2 inches apart during teaching mode, and the IR transmitters of the two Remotes should be aligned with each other.

6. REMOTE CONTROL OPERATION continued ...

- The placement of the IR transmitter in the Source Remote may make it difficult to correctly align the two Remotes.
- Source Remotes that contain a beam-focusing lens may require more than one attempt at successful alignment.
- The learning process should be conducted in an area where there is a low level of IR emission. High levels of natural light or fluorescent lighting could interfere with a learning event.
- The maximum carrier frequency is 135 kHz.

Teaching a key:

To initiate the learning operation, follow these steps:

1. Point the Source Remote and AVM 30 Remote at each other (to be ready for step 5).
2. Press and hold **LEARN** until the LED flashes twice.

One long blink indicates low battery or faulty memory. The Remote will not go into learn mode if either of these conditions exist.

3. Press **9, 7, 5**, then the desired **Path/Component key**.

To place the command in Layer1, follow step 4a. To place the command in Layer2, follow step 4b:

- 4a. Press the **key to be taught**. Proceed to step 5.
- 4b. Press **LEARN** (don't hold), then press the **key to be taught**.
5. The LED flashes rapidly. Within 4 seconds, press and hold the **teaching key on the Source Remote** until the LED flashes twice. The LED will go out while it receives a signal from the Source Remote.

One long blink appearing during this step indicates a learning failure, which could mean:

- Bad Capture (try again).
- Memory Full (delete another command).
- Unlearnable Code.

6. Repeat steps 4a or 4b and 5 as often as desired (up to the maximum limit of memory or 24 keys).
7. Wait 10 seconds to exit the learning mode automatically.

Deleting a learned command from a key:

To delete a learned command on one key, you can either overwrite it with a new code on the same key, or use the following delete sequence:

1. Press and hold **LEARN** until the LED flashes twice.
2. Press **9, 7, 6**, the **Path/Component key**, the **key to be deleted**, the **key to be deleted again**.

To reset the Remote Control to factory settings:

Press and hold **LEARN** until the LED flashes twice and then press **9, 8, 0**.

6.9 CONTROLLING THE AVM 30 WITH AFTERMARKET REMOTES

Some keys on the AVM 30 Remote, such as **VOL+**, **VOL-**, and **SETUP** (SUB/LFE), have **press and hold** commands as well as regular **press and release** commands. It may be necessary to program your aftermarket remote to **loop** or **repeat** a command to turn it into a 'press and hold' command. The methods of doing this vary with model – contact the remote control manufacturer for more information.

Direct Mode and tuner bank access: If you're using a macro-capable aftermarket remote, individual surround Modes and tuner banks can be accessed directly by way of 3-key sequences – see Appendix A.

7. SETUP MENU

The Setup is where all the user definable operating characteristics, calibrations, and configurations are entered. For optimum performance and enjoyment, it is crucial that your AVM 30 be properly set up.

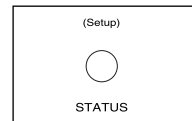
It is strongly recommended that the menus are set up in the order that they appear. For ease of viewing, use of the On-Screen display is recommended whether accessing the Setup by Remote Control or Front Panel. The On-Screen and Front Panel displays are synchronized with one another. Illustrations throughout this section show the On-Screen display menus. The Front Panel display shows similar information.

If you are using Component Video, do the following to see the Setup Menus on the On-Screen Display:

- Connect the AVM 30 Composite or S-Video output to your TV's Composite or S-Video input.
- Temporarily change your monitor's input to Composite or S-Video by using TV remote control.

7.1 HOW TO ENTER THE SETUP MENU

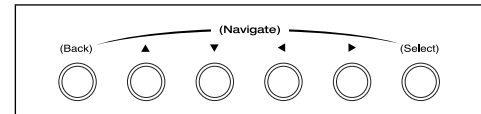
Note: The Setup Menu can be accessed from the **MAIN** or **ZONE2** Path. When in the **ZONE2** Path, the Setup Menu will not show on the Main TV and vice versa – press the appropriate path first and then enter the Setup Menu.



- **Front Panel:** Press and hold **STATUS (Setup)** for 3 seconds.
- **Remote Control:** Press and hold **SUB/LFE (SETUP)** for 3 seconds.

7.2 HOW TO NAVIGATE IN THE SETUP MENU

- Use the **▲ ▼** buttons to scroll through menus.
- Press **SELECT** to choose a menu item.
- Use the **▲ ▼** and **◀ ▶** buttons to change settings.
- Press **BACK** to return to previous item or menu.



Example: Enter the distance from your speakers to the listening position (section 7.4.3):

- Enter the Setup (section 7.1).
- Press the **▼** button until you reach '3. LISTENER POSITION'.
- Press **SELECT**. This will bring up the '3. LISTENER POSITION' sub-menu.
- Use the **▲ ▼** buttons to scroll to the speaker(s) that you want to change.
- Use the **◀ ▶** buttons to change the distance.
- Press **BACK** to leave the submenu.

Note: The last change made to a Setup item will always be the 'entered' result. If you make a change and then decide that you don't want the new setting, you must go back to that item and change it to the original setting.

7.3 HOW TO EXIT THE SETUP MENU

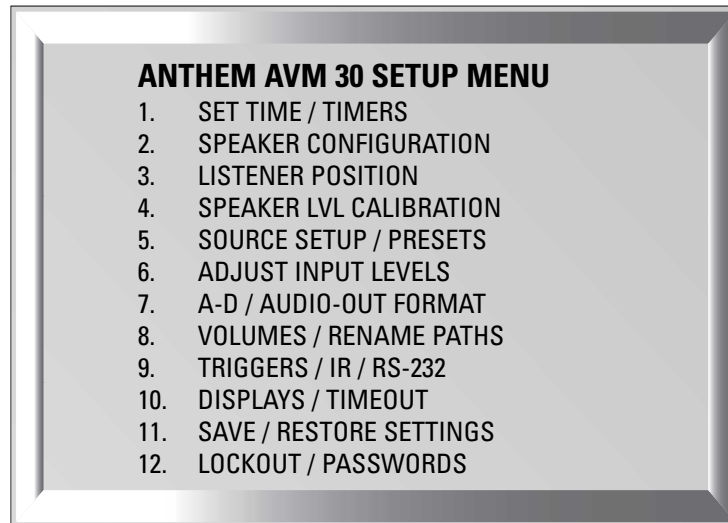
- Press **BACK** as many times as necessary. Each time **BACK** is pressed, the Setup returns to the previous item or menu, until Setup is exited completely and the regular display returns.

Note: The Setup will exit automatically if not used for 5 minutes to prevent burning of a permanent On-Screen display image in the projector/monitor.

7. SETUP MENU continued ...

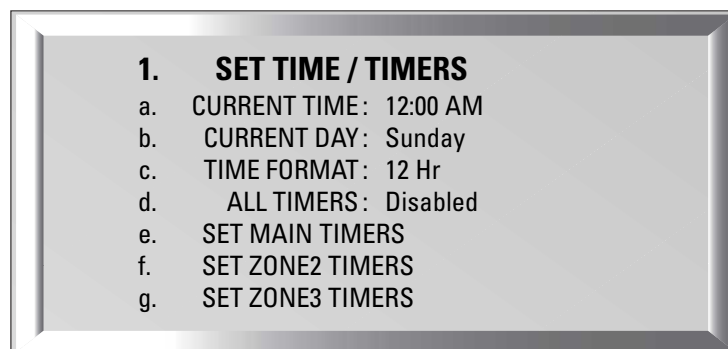
7.4 SETTING UP THE AVM 30

After entering the Setup Menu as described in section 7.1, your On-Screen display will show the menu below. Only 8 menu items can be displayed at one time – use the ▲ ▼ buttons to scroll up or down and view the remaining ones. To go to a submenu, highlight a menu item in red and then press **SELECT**.



7.4.1 SET TIME / TIMERS

The time and day, plus 6 different timers are set in this menu. The timers in the AVM 30 are similar to an alarm clock, but allow two different timer settings for each of MAIN, ZONE2, and ZONE3.



Procedure for setting Current Time and Day:

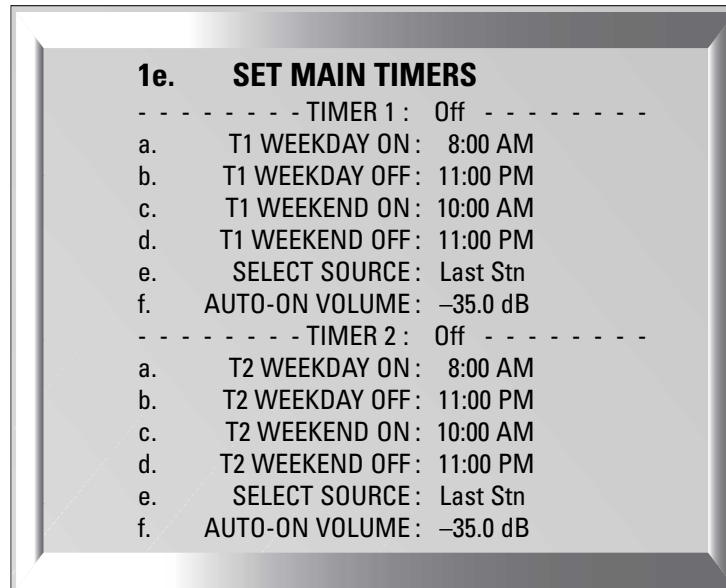
- Enter the Setup (section 7.1). Go to '1. SET TIMERS/TIME' and press **SELECT**.
- Press the ▼ button until you reach 'c. TIME FORMAT: 12 Hr'.
- Use the ◀ ▶ buttons and choose '12 Hr' or '24 Hr'.
- Press the ▼ button to go to 'a. CURRENT TIME: 12:00 AM'.
- Press **SELECT**. '12' will be highlighted in red.
- Use the Master Control Knob or the ▲ ▼ buttons to set the current hour.
- Press the ▶ button. '00' minutes will be highlighted.
- Use the Master Control Knob or the ▲ ▼ buttons to set current minutes.
- Press **BACK** to return to the menu line.
- Press the ▼ button to go to 'b. CURRENT DAY: Sunday'.
- Use the ◀ ▶ buttons to set the current day.

All Timers:

This allows you to simultaneously 'Enable' or 'Disable' all Timers for MAIN, ZONE2, and ZONE3.

7. SETUP MENU continued ...

Highlighting 'e. SET MAIN TIMERS' in menu 1 and then pressing **SELECT** displays this menu:



Timer Options:

There are two Timers for Main and each Zone to allow greater flexibility. You can set individual week and weekend auto-on/off times twice – once for the morning and again for the evening, for example.

Using the ◀ ▶ buttons, TIMER 1 and TIMER 2 choices are:

- **'Off'** – Timer is disabled and will not come on at any time or day.
- **'Week'** – Timer will operate for Monday to Friday only.
- **'Wkend'** – Timer will operate for Saturday and Sunday only.
- **'Wk+Wkend'** – Timer will operate for every day of the week.

On and Off Times:

Individual auto-on/off times are entered for:

T1 or T2 WEEKDAY ON: Sets the Monday to Friday turn-on time.

T1 or T2 WEEKDAY OFF: Sets the Monday to Friday turn-off time.

T1 or T2 WEEKEND ON: Sets the Saturday and Sunday turn-on time.

T1 or T2 WEEKEND OFF: Sets the Saturday and Sunday turn-off time.

Timers may also be set to only turn on or only turn off (see Example 2) – this way, the AVM 30 can be set to turn on automatically, and it won't turn off until you turn it off manually when you're done for the day.

Note: If the AVM 30 is already on, 'Timer On' settings are ignored to ensure that Source and Volume are not changed when you are already listening to a program.

Select Source:

This allows you to select the Source that will play when a Path is turned on by its Timer1 or Timer2 – select any Source, any preset FM•AM station, or Last Stn (the tuner setting when AVM 30 was last turned off). Be sure that your selected **source component** and **power amplifier** are turned on, or will be on at the Timer turn-on time. If your components are equipped with trigger inputs, you can set an AVM 30 trigger to turn them on automatically (see section 7.4.9).

Auto-On Volume:

Sets the Volume that will play when Timer1 or Timer2 turns the power on for its Path. The volume starts at the minimum volume for that Path and slowly increases until the 'Auto-On' setting is reached.

7. SETUP MENU continued ...

Example 1: Select a Source for the ZONE2 Timer:

- Enter the Setup (section 7.1). Go to '1. SET TIME/TIMERS' and press **SELECT**.
- Press the ▼ button until you reach 'f. SET ZONE2 TIMERS'.
- Press **SELECT**. The '1f. SET ZONE2 TIMERS' submenu will appear.
- Press the ▼ button until you reach 'e. SELECT SOURCE'.
- Use the ◀ ▶ buttons to change to desired Source.
- Press **BACK** to leave this submenu and return to the SET TIME/TIMERS menu.

If you selected 'Last Stn' as your Timer turn-on Source, you can leave it set to the last station you were listening to, or choose one of your preset stations. To have the Timer turn on to a Preset Station, do the following from the 'e. SELECT SOURCE' menu line (above):

- Use the ◀ ▶ buttons to change to 'Last Stn'.
- Press **SELECT** to highlight 'Last Stn'.
- Use the ▲ ▼ buttons to change to the desired FM•AM Preset. These will scroll from 'AM 1-1' to 'AM 1-6' to 'FM1-1' through to 'FM3-6' and back to 'Last Stn'.
- Press **BACK** to leave this submenu.

Note: The Timer submenu setup procedure is the same for MAIN, ZONE2, and ZONE3.

Example 2: Change ZONE2, TIMER2 to come on Weekdays at 7:35 AM.

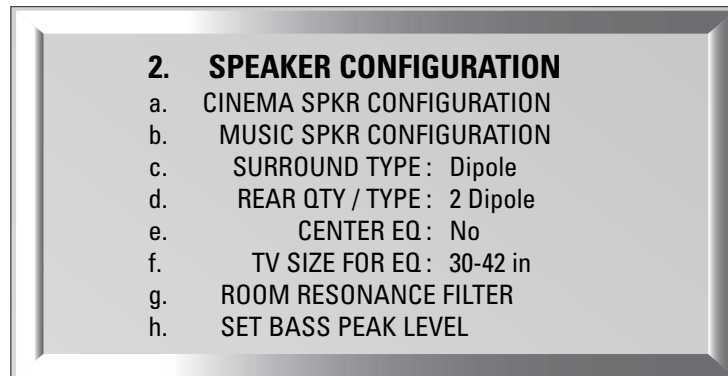
- Enter the Setup (section 7.1). Go to '1. SET TIME/TIMERS' and press **SELECT**.
- Press the ▼ button until you reach 'f. SET ZONE2 TIMERS'.
- Press **SELECT**. The '1f. SET ZONE2 TIMERS' submenu will appear.
- Press the ▼ button to reach 'TIMER 2: Off'.
- Use the ◀ ▶ buttons to change to 'Week'.
- Press the ▼ button until you reach 'a. T2 WEEKDAY ON: 8:00 AM'.
- Press **SELECT**. The hour is now in red, use the Master Control Knob or the ▲ ▼ buttons to set the hour to '7' AM. (Continuing through '12' will advance the AM/PM settings.)
- Press the ▶ button. '00' minutes will be highlighted.
- Use the Master Control Knob or the ▲ ▼ buttons to set the minutes to '35'.
- Press **BACK** to leave this submenu and return to SET TIME/TIMERS menu.

Note: When scrolling between '11 PM' and '12 AM' settings, the display shows '--:--'. Timers set in the '--:--' position will be skipped. Thus, to set the Timer to only turn on, set the Off time to '--:--'. To set the Timer to only turn off, set the On time to '--:--'.

7. SETUP MENU continued ...

7.4.2 SPEAKER CONFIGURATION

The Speaker Configuration Setup allows you to enter information about how many speakers you have in your system, and their relative size and type. Here you will also set up the bass management. Entering information about the size of your speakers will enable the AVM 30 to control bass information so it is not lost or distorted by smaller speakers that are unable to reproduce large amounts of bass.



Cinema and Music Configurations:

The AVM 30 allows you to set two separate bass management configurations – **Music** can be tailored for music (and movies that do not contain a Low Frequency Effects '.1' track), and **Cinema** for source material that contains LFE, including all 5.1/6.1 channel movie and music sources. These configurations can be assigned to each Source.

Using the Music configuration is optional. Once you enter menu 2b. MUSIC SPKR CONFIGURATION, it asks whether or not you want to use the same settings as the Cinema configuration – 'Yes' is the factory default.

Setting up a configuration is described later in this section. Assigning a configuration to a Source or enabling automatic activation according to presence/absence of LFE is explained in section 7.4.5.

Surround and Rear Speaker Quantity and Type:

Surround speakers fall under two radiation pattern categories: Direct and Dipole. No delay is necessary in channels using dipole speakers – the sound is already delayed through room reflections. When dipoles are selected as the SURROUND TYPE and/or REAR TYPE, their distance will automatically equal the greatest distance in menu 3. LISTENER POSITION (see section 7.4.3).

If you are using one Rear speaker, set d. REAR QTY/TYPE to one speaker and use the Rear-L output.

If your speaker system is 5.1 (thus no Rear channels), simply ignore the d. REAR QTY/TYPE setting.

Center EQ:

When a center channel speaker sits on top of or below a TV, its frequency response can be altered by reflections coming off the screen, making dialog less natural. With Anthem's unique CENTER EQ set to 'Yes', timbre can be restored using response curves prepared specifically for cancelling out effects of TV screens.

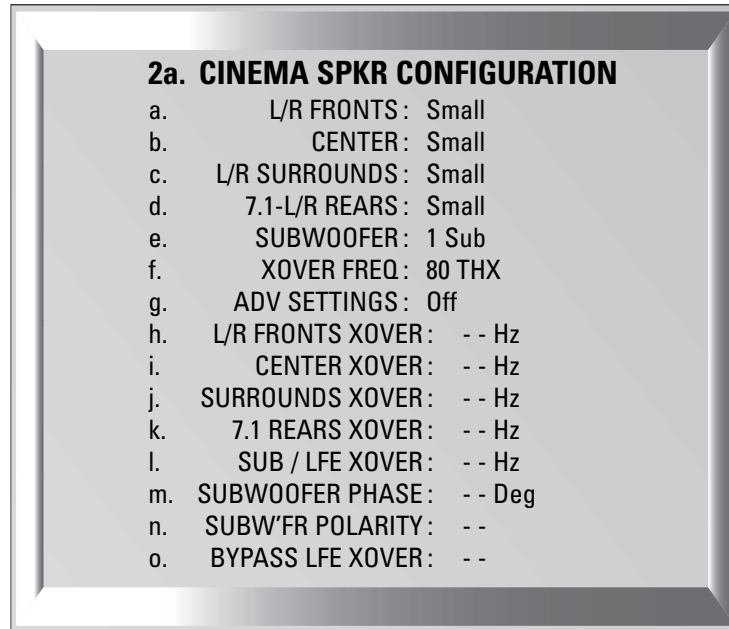
TV Size For EQ :

This is used to determine the magnitude of the CENTER EQ change. Since room/TV/furniture acoustics vary, as do characteristics of center channel speakers from model to model, you may wish to spend a little time experimenting to determine which setting works best – play 3 or 4 different DVDs and listen to center channel dialog to find the setting that sounds the clearest.

- Select the TV size category that is one higher than what you are using, and then listen. The size categories are: 18" - 30" / 30" - 42" / 42" - 54" / 54" - 66" / 66" - 78".
- Leave it in the setting that provides the clearest dialog, even if it doesn't actually match the size of your TV. Turning the Center EQ off completely may even sound best. Let your ears be the final judge!

7. SETUP MENU continued ...

Highlighting 'a. CINEMA SPKR CONFIGURATION' in menu 2 and then pressing **SELECT** displays this menu:



Small or Large:

Most speakers should be set to 'Small' and be used with a subwoofer, unless they use large drivers that can handle bass and LFE. Even then, physically large speakers may need a subwoofer for bass frequencies, particularly the bass of the '.1' LFE channel. All THX certified speakers are designed to be set to 'Small'. After highlighting a speaker or speaker group, use the ◀ ▶ buttons to select to 'Large', 'Small', or 'None'.

Subwoofer:

To find the best option for your room and system, first position all of your speakers and then select the option that gives the most solid sounding bass. The options are:

- **'None'** All bass is routed to 'Large' L/R Front and Surround speakers, including bass from speakers set to 'Small' plus bass from the '.1' LFE (Low Frequency Effects) channel.
- **'1 Sub'** Bass from channels set to 'Small' goes to the subwoofer along with bass from the '.1' LFE channel. This setting is preferred by THX.
- **'1 Super'** The subwoofer plays bass from all channels (Large and Small), together with LFE. This setting is recommended only for the Music configuration when using full-range speakers set to 'Large' together with the subwoofer.
- **'2 Sub'** or **'2 Super'** – Select when using both Subwoofer outputs. This adjusts the level of the subwoofer channel test noise to compensate for the additional subwoofer.

'None' Setting for Center, Surrounds, or Rears:

- If CENTER is set to 'None', center channel information is redirected to the L/R Fronts (this is also known as a Phantom center channel).
- If SURROUNDS are set to 'None', L-Surround channel information is directed to the L-Front channel, and R-Surround channel information to the R-Front channel (except in Dolby Pro Logic mode).
- If REARS are set to 'None', Rear channel information of Surround EX and DTS-ES DVDs plays in the Surround channels – no information is lost in the absence of Rear speakers.

Note: If using 5.1 speakers (or less) in your system, the surround speakers must be connected using the SURROUND channels, and REARS must be set to 'None' to properly configure your system.

7. SETUP MENU continued ...

Crossover Frequency:

The crossover (Xover) divides the audio signal into two frequency bands, thereby restricting the amount of bass sent to any speaker set to 'Small', and preventing midrange and treble from going to the subwoofer.

Using the ◀ ▶ buttons, choose a frequency between 25 Hz - 160 Hz suitable for the low frequency capability of the speakers in your system. If you are using THX certified speakers, the crossover should be set to 80 Hz.

The subwoofer's built-in crossover should be bypassed – be sure to set it to the highest frequency.

Note that a crossover does not cut frequencies off, but rolls them off. Setting XOVER FREQ to the very limit of your speakers' low frequency capability may not give the best results. If XOVER FREQ is set to 80 Hz, for example, your main speakers will still be playing lower frequencies – they just won't have to play them as loudly. This also lightens the load on the amplifier, leaving extra power for mid and high frequencies.

Bass response is most dependent on room acoustics, and some experimentation with subwoofer placement is highly recommended – start by placing the subwoofer in the listening area, play some music with a range of bass notes, and walk around the room. Locations where bass sounds even, without certain notes being much louder than others, are usually good spots for placing the subwoofer and getting response that's even.

Note: LFE is redirected only when Subwoofer is set to 'No'. If set to 'Yes' or 'Super', Cinema Configuration XOVER FREQ should not be set much lower than 80 Hz, otherwise some LFE information will be lost.

Advanced Settings – Crossover Frequency:

Advanced Settings let you tailor Crossover Frequency settings more precisely. When 'ADV SETTINGS' is set to 'On', each speaker type can be set to a Crossover Frequency that best suits its specific low frequency characteristics. Even large speakers that can handle extended bass benefit because you can set the Crossover Frequency to a very low setting and prevent them from receiving signals that are better handled by a high performance subwoofer. Scrolling below '25 Hz' or above '160 Hz' brings the 'Off' setting, which bypasses the crossover and sends a full-range signal to the speaker.

If room acoustics cause cancellation in the crossover region, sound can be improved by overlapping the Subwoofer setting with the settings of other speakers, for instance setting L/R FRONTS XOVER to 70 Hz while setting SUB/LFE XOVER to 90 Hz. On the other hand, if there is a bass peak in the crossover region, you can spread the settings, such as setting L/R FRONTS XOVER to 100 Hz and SUBWOOFER XOVER to 80 Hz.

Advanced Settings – Subwoofer Phase and Polarity:

Room acoustics vary. If you have the flexibility, experiment with subwoofer placement to determine where it sounds best in your system, providing deep, tight, and well defined bass. Certain subwoofer positions, however, may cause bass frequency cancellation, meaning that when your front speakers and subwoofer are "out-of-phase", they work against each other, resulting in weak and sometimes dislocated sounding bass. This can be corrected by adjusting the Subwoofer Phase and Polarity settings in this submenu.

If your subwoofer has phase and/or polarity controls, set them to zero/normal before making any adjustments to the AVM 30's Subwoofer Phase and Polarity settings.

As a general guide, set Polarity to 'Normal' if the subwoofer is placed close to the front speakers, and to 'Inverted' if the subwoofer is located behind the listening area or toward the back of the room. With bass material playing, switch Polarity from 'Normal' to 'Inverted' as a quick check – leave it in the position where bass is louder and more solid sounding.

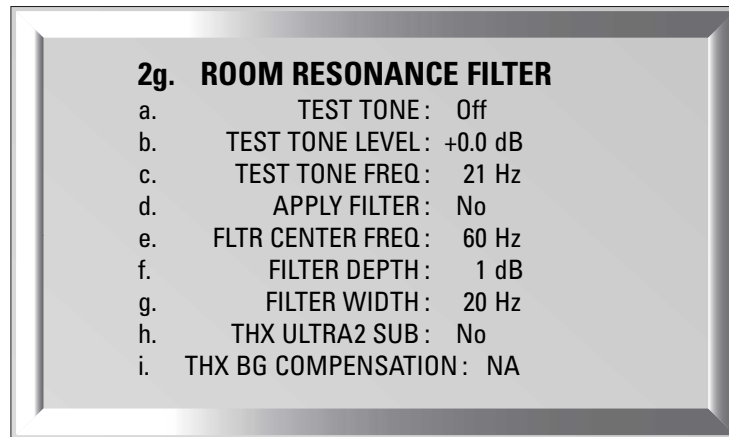
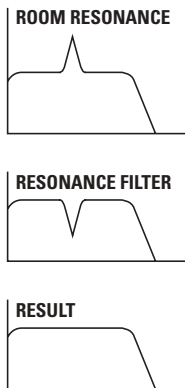
Subwoofer Phase allows you to take things a step further and fine tune the phase alignment of the subwoofer to your front speakers. Again, adjust Phase for the least amount of cancellation by listening for loudest and most solid bass. Alternatively, listen to the 'shhhh' noise created between FM radio stations, and adjust Phase until you find the most natural sounding transition between your main speakers and subwoofer.

Advanced Settings – Bypass LFE Crossover:

If you have set SUB/LFE XOVER to much lower than 80 Hz, the upper portion of the LFE signal will be lost. With BYPASS LFE XOVER set to 'Yes', LFE goes to the subwoofer without going through the crossover, preventing loss of LFE information. This also applies to the 6-Ch input's SUB input (effectively, an LFE input).

7. SETUP MENU continued ...

Highlighting 'g. ROOM RESONANCE FILTER' in menu 2 and then pressing **SELECT** displays this menu:



Rooms often have a single prominent resonance peak which can make bass sound boomy, even with the finest subwoofer. The AVM 30 has a proprietary set of low frequency test tones that allow you to find and easily remove that resonance peak.

The Room Resonance Filter is a notch filter – it is not designed to boost weaker bass frequencies. While running the test tones, if you discover that instead of a prominent peak, there is a prominent dip in response, the best way to fill it is through a subtle repositioning of the subwoofer and/or listening position. Using electronics alone to accomplish this is often met with frustration, for example, a 10 dB boost would require the amplifier to work ten times harder, as well as speakers that can handle that much more power.

Test Tone and Test Tone Level:

Test tones sweep from 18 Hz up to the XOVER FREQ (or the SUB/LFE XOVER frequency) that you have set in menu 2a. or 2b., whichever is higher. You can vary the level to obtain a comfortable playback volume.

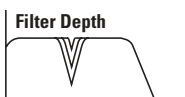
Filter Center Frequency:

The frequency that is reduced the most when the filter is applied is called the Center Frequency. Set this to the frequency that sounds the loudest or most boomy when the built-in test tones are played. If you're using a sound pressure level meter, set it to 'Flat' or 'C-weighting'.



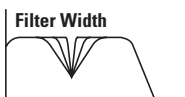
Filter Depth:

This is the amount of center frequency 'cut', or reduction in volume, in the subwoofer channel. Frequencies just above and just below the center frequency are also reduced, but not as much. Range is from 1 to 20 dB.



Filter Width:

This adjustment varies the range and sharpness of the filter. For example, if Filter Width is set to 3 Hz, the Room Resonance Filter cuts a very narrow range at the filter center frequency. If Filter Width is changed to 18 Hz, a broader range is reduced.



Note: Changing Center Frequency and Depth settings affects the available range of Width and causes it to automatically decrease if required.

THX Boundary Gain Compensation:

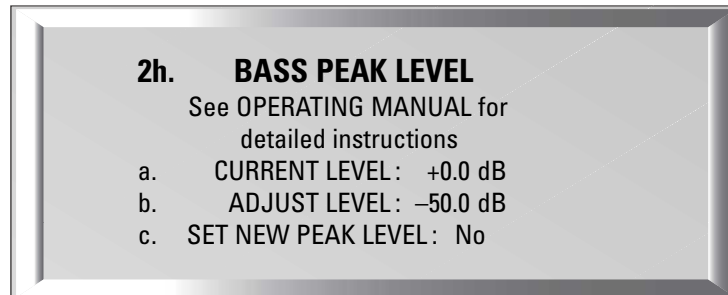
If, for practical or aesthetic reasons, your listening room layout results in most of the listeners being close to the rear wall, bass may be reinforced by the wall so much that the overall bass sounds boomy. The AVM 30 provides a Boundary Gain Compensation (BGC) feature to improve bass balance under these conditions. With a THX Ultra2 certified subwoofer, or a subwoofer that extends down to 20 Hz, BGC can be enabled by setting THX Ultra2 Subwoofer to 'Yes' and then BG Compensation to 'On'.

7. SETUP MENU continued ...

Procedure for adjusting Room Resonance Filter:

- Enter the Setup (section 7.1). Go to '2. SPEAKER CONFIGURATION' and press **SELECT**.
- Press the **▼** button until you reach '2g. ROOM RESONANCE FILTER' and press **SELECT**.
- Use the **◀ ▶** buttons to set TEST TONE to 'Auto'. Press **SELECT** to start automatic sweeping of the test tones. Alternatively, you can set TEST TONE to 'Manual' – to vary the frequency, press the **▲ ▼** buttons to reach 'c. TEST TONE FREQ', then use the **◀ ▶** buttons to change frequency.
- Some subwoofers are not able to accurately reproduce frequencies below 30 Hz or so, especially at higher levels. In addition, it can be quite difficult to hear these frequencies. If playing them doesn't 'sound right', do not continue to play them.
- Line 'c. TEST TONE FREQ' changes to show the frequency being played during automatic sweep. Listen for (or measure) the frequency that sounds too loud compared to the other frequencies.
- Press the **▼** button until you reach 'e. FLTR CENTER FREQ' and select the frequency that is closest to the test tone frequency that was found to be the loudest.
- Press the **▲** button until you reach 'd. APPLY FILTER' and set to 'Yes'.
- Press the **▲ ▼** buttons to go to 'f. FILTER DEPTH' and 'g. FILTER WIDTH'. Adjust both to achieve the flattest response across the range of test tones.
- Press **BACK** to stop the test tones and leave this submenu.

Moving to the next menu, highlight 'h. BASS PEAK LEVEL' in menu 2 and press **SELECT** to display:



The loudest part of movie soundtracks is usually the bass that comes from the LFE track. The Bass Peak Level Manager 'looks ahead' at the bass signal, and reduces the chance that your speakers will overload by tailoring bass output to match their capabilities. If your subwoofer already has its own built-in limiter, it may be best to leave Current Level at 0 dB. **BPLM is disabled if 'THX Ultra2 Subwoofer' is set to 'Yes' in menu 2g.**

Procedure for setting Bass Peak Level:

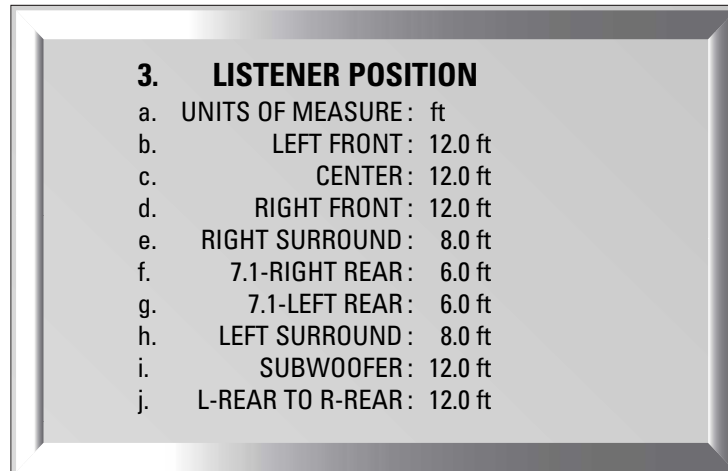
- Enter the Setup (section 7.1). Go to '2. SPEAKER CONFIGURATION' and press **SELECT**.
- Press the **▼** button until you reach '2h. BASS PEAK LEVEL' and press **SELECT**.
- Press the **▼** button until you reach 'b. ADJUST LEVEL -50.0 dB'.
- A test signal should be audible. Use the **◀ ▶** buttons to turn up the level of the test signal until distortion from the subwoofer (or 'Large' L/R Fronts if Subwoofer is set to 'No') begins to appear, then lower the level of the test signal until the distortion just disappears. At this point the sound may be surprisingly loud even though it's not distorted – make sure that you do not stop at a setting that is too low, or very little bass may be heard during movie or music playback.
- Press the **▼** button to go to 'c. SET NEW PEAK LEVEL'.
- Use the **◀ ▶** buttons to change to 'Yes'.
- Press **SELECT** and 'a. CURRENT LEVEL' will change to the new setting. The AVM 30 will not allow bass output to exceed this new setting.
- Press **BACK** to leave the submenu.

7. SETUP MENU continued ...

7.4.3 LISTENER POSITION

The Listener Position menu lets you enter the distance between each speaker and the listening area. Ideally, speakers should be placed at an equal distance so that their sound arrives at the listening area at the same time, but since this is rarely practical, the AVM 30 can delay the sound coming from speakers that are closer to the listener. This way, sound reaches the listening area at the same time from all speakers, and proper imaging can be achieved.

The speaker with the greatest distance setting will have no delay; speakers with shorter distance settings will be delayed according to their setting.



Units of Measure and Distance Adjustment:

Choose the units you want to use (feet/metres), then enter the distance between your primary listening area and each speaker. Range is 0-99 ft in 0.5 ft increments or 0-99 m in 0.2 m increments.

Note: Speakers set to 'Dipole' in menu 2. SPEAKER CONFIGURATION will automatically have their distance set to equal the greatest distance of any other speaker (see section 7.4.2).

L-Rear to R-Rear:

ASA is a proprietary THX technology which processes the sound fed to the two surround and two rear speakers to provide an optimal surround sound experience. Choose the setting that most closely corresponds to the spacing between your Rear speakers.

Example: Set Right Front speaker distance to 9.5 feet.

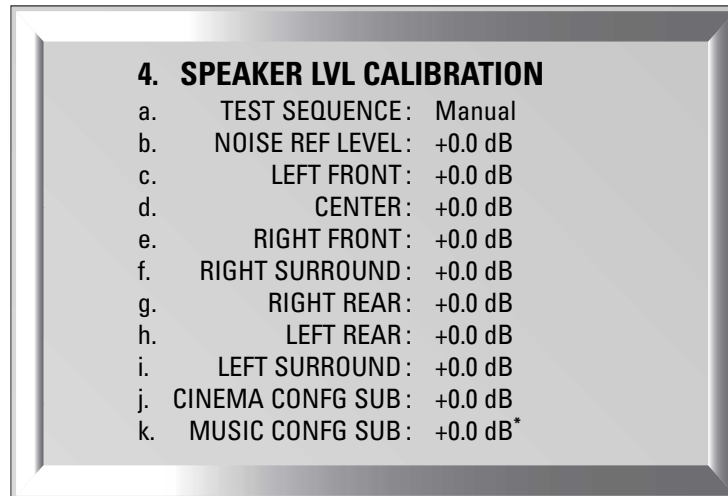
- Enter the Setup (section 7.1). Go to '3. LISTENER POSITION' and press **SELECT**.
- Press the ▼ button until you reach 'd. RIGHT FRONT: 12.0 ft'.
- Use the ◀ ▶ buttons to change to '9.5 ft'.
- When finished, press ▲ ▼ to go to another menu item, or...
- Press **BACK** to leave the submenu and return to the main menu.

7. SETUP MENU continued ...

7.4.4 SPEAKER LEVEL CALIBRATION

Speaker Level Calibration allows you to match the relative output level of each speaker at the listening position, using internal test noises.

Note: The FRONTS, CENTER, SURROUNDS, REARS, SUB, and BALANCE buttons on the Front Panel and Remote Control do not affect settings in this menu – they allow ‘on-the-fly’ adjustment for individual program material and Modes according to personal preference (sections 5.6 and 5.7).



* Item k. is displayed only when ‘a. SAME AS CINEMA CONFIG’ is set to ‘No’ in menu 2b.

Test Sequence:

Test noise can be set to travel from speaker to speaker manually using ▲ ▼ buttons, or automatically in two second intervals by setting TEST SEQUENCE to ‘Auto’ using the ◀ ▶ buttons and then pressing **SELECT**.

Note: If the previously selected Source is Anlg-Dir, the AVM 30 switches to FM•AM, which is always Anlg-DSP, for the duration of the test noise. (‘Anlg-Dir’ bypasses the test noise generator.)

We strongly recommend the use of an SPL meter. The proper meter setting is ‘C-weighted’, but ‘Flat’ can also be used. Do not use ‘A-’ or ‘B-weighting’. Set the meter to read ‘Slow’ or ‘RMS’ if available. Point the meter upwards, holding it at the listening position an arm’s length away from your body to prevent reflections.

Noise Reference Level:

This is the ‘master volume’ for the test noises, and allows you reduce how much adjustment each channel will need based on how much output the Left Front channel has. The setting depends on the sensitivity of your amplifier(s) and speakers. Using the ◀ ▶ buttons, adjust NOISE REF LEVEL so the SPL meter reads 75 dB.

Level Calibration:

Balances speaker levels to one another. Since this setup calibrates all speaker levels for your listening area, use the Remote Control and sit in the primary listening area when calibrating speaker levels. Any speaker set to ‘None’ in the Speaker Configuration menu will be skipped (see section 7.4.2). Once you have set the reference level, adjust the level of each speaker using the ◀ ▶ buttons so the SPL meter reads 75 dB. As a matter of personal preference, you can set the subwoofer level by ear if more bass is desired.

If Subwoofer is set to ‘Super’ in menu 2a. or 2b., do not rely on an SPL meter to set subwoofer level, because Speaker Level Calibration cannot take into account the added bass the subwoofer receives from speakers set to ‘Large’ which results in more bass during playback than the calibrated level. Therefore, if using ‘Super’, set subwoofer level by ear while playing various types of source material.

7. SETUP MENU continued ...

Procedure for Manual Test Sequence:

- Enter the Setup (section 7.1). Go to '4. SPEAKER LVL CALIBRATION' and press **SELECT**.
- Press the ▲ ▼ buttons to go from speaker to speaker.
- As each speaker plays, use the ◀ ▶ buttons to adjust its loudness relative to other speakers.
- Press **BACK** to stop the test tone.

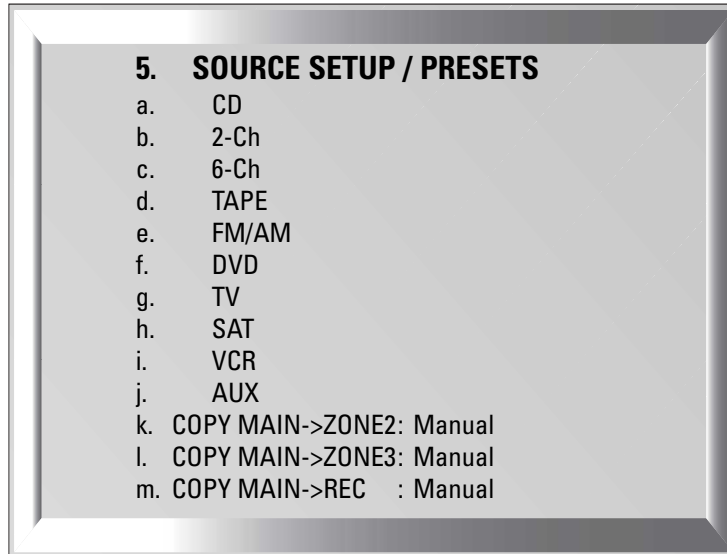
Procedure for Auto Test Sequence:

- Enter the Setup (section 7.1). Go to '4. SPEAKER LVL CALIBRATION' and press **SELECT**.
- Use the ◀ ▶ buttons to set TEST SEQUENCE to 'Auto'.
- Press **SELECT** to start the automatic sequence.
- As each speaker plays, use the ◀ ▶ buttons to adjust its loudness relative to other speakers. Once set, the sequence will automatically advance to the next speaker for adjustment. It will then continue to cycle speaker by speaker to allow you to fine tune all levels.
- Press **BACK** to stop the test tone.

7. SETUP MENU continued ...

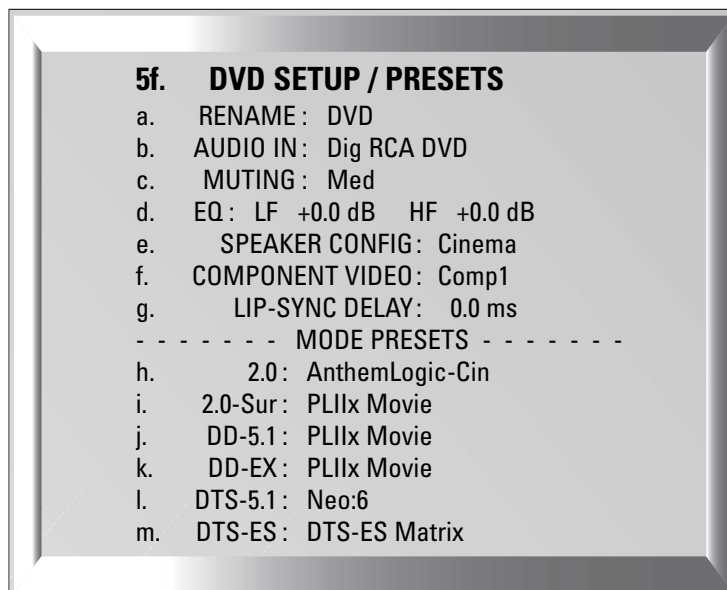
7.4.5 SOURCE SETUP / PRESETS

For each Source, you can change the name and, where applicable, assign digital audio and component video input, assign speaker configuration, adjust equalization, and set lip-sync delay. You can also pre-select surround modes that take effect for each Source when the AVM 30 is turned on, or a Source is selected. This is particularly useful when you have changed Mode settings for a particular program. When another member of your family uses the AVM 30, presets are recalled, ensuring trouble-free operation.



If you want any Path to always be in Copy mode (see section 5.2.1), change 'Manual' to 'Always'. This is recommended when you want a Source that has digital-only connection to be used in ZONE2, ZONE3, and/or REC without having to turn MAIN on, and if you want the Paths that are set to 'Always' plus MAIN to change Source together with the single push of a Source button in any of these Paths. Always Copy is not recommended if you want all Paths to have independent Source selection – in this case, make sure that your source components are connected to both the Analog and Digital jacks (see sections 4.2.1 and 4.2.2).

For the following example, highlighting 'f. DVD' in menu 5 and then pressing **SELECT** displays this menu:



7. SETUP MENU continued ...

Rename Source:

The factory assigned Source names that appear on the Front Panel Display and the On-Screen Display can be changed to another name, up to six characters long. The following characters are available:

A, B, C...Z, a, b, c...z, blank, dash (–), period (.), slash (/), **0, 1, 2...9**.

After highlighting the RENAME line, press **SELECT** and use the ◀ ▶ buttons to move from character to character, then use the ▲ ▼ buttons or rotate the Master Control Knob to change the character. It is also possible to rename 'ZONE2', 'ZONE3', and 'RECORD' – see section 7.4.8.

Audio In (applies to MAIN only):

There are four input formats to choose from – Digital, Analog-DSP, Analog-Direct, or Auto. After highlighting 'AUDIO IN' use the ◀ ▶ buttons to select an input format.

- **Dig** (Digital – not applicable to 6-Ch S/E, 2-Ch BAL, or FM•AM): Use this setting for any source component that has a digital output, especially the DVD player – Dolby Digital and DTS are transmitted only through the digital connection.
- **Anlg-DSP** (Analog with Digital Signal Processing): If you want your subwoofer to play from an analog L/R input, use this setting. Analog input is converted to digital through the AVM 30's high-end A/D converters to enable bass management, time alignment, Mode, Bass/Treble, Lip-Sync Delay, and THX. These are also available for the **6-Ch S/E** input, since it can also be set to Anlg-DSP. With the bass management and time alignment that this provides, the resulting sound quality from DVD-Audio or multichannel SACD is far better than setting the 6-Ch input to Anlg-Dir. If your player has bass management and time alignment, you can defeat it by setting all channels 'large' and to the same distance. This is necessary when using Anlg-DSP, otherwise the processing occurs twice.
- **Anlg-Dir** (Analog-Direct – not applicable to FM•AM): A/D conversion and Digital Signal Processing are bypassed, only leaving Volume, surround mode level, Balance, and Mute functional. Other than the subwoofer channel of the 6-Ch S/E input, there is no subwoofer output in Anlg-Dir.
- **Auto**: The AVM 30 automatically switches between Digital and Analog-DSP. When it senses a digital bitstream, the Digital input is used. At all other times, it switches to the Analog L/R input. This feature is especially useful with a digital cable box since some channels are broadcast digitally while others are analog – the AVM 30 switches automatically while you change channels.

Once you have set a Source to 'Digital' or 'Auto', press **SELECT** and then use the ▲ ▼ buttons to choose between any digital RCA connector, TOS1, TOS2, TOS3, or AES/EBU. Digital input connectors can be assigned to multiple 'Digital' Sources – this allows, for example, two unique Setup/Preset settings for the same DVD player, one for DVDs using the DVD Source, and the other for CD music using the CD Source.

Muting (applies to MAIN only):

This eliminates 'popping' sounds that may occur with some digital source components during a bitstream change. If popping is heard when changing chapter on a DVD or channel on a digital satellite receiver or cable box, use Max setting. However, if the beginning of a track is cut off when playing a CD, use Min setting.

EQ (applies to MAIN only):

For Sources set to Digital or Anlg-DSP, you can preset low and high frequency levels. This is useful for source components that have frequency irregularities. After highlighting the EQ line, press **SELECT** and use the ◀ ▶ buttons to select LF (low frequency) or HF (high frequency), then use the ▲ ▼ buttons to adjust. In the FM/AM Setup/Presets menu, FM and AM can be adjusted separately. The EQ settings in this menu and the 'on-the-fly' BASS / TREBLE adjustments do not affect each other (see section 5.7).

7. SETUP MENU continued ...

Speaker Configuration (applies to MAIN only):

Choose between Cinema (menu 2a.) or Music (menu 2b.) configuration – see section 7.4.2.

A third and unique choice is also available: Auto-LFE. When selected, the AVM 30 automatically uses the Cinema configuration if there is LFE in the source material, and changes to the Music configuration at all other times. Highly recommended when using the same player for DVDs and CDs, and separate Cinema and Music configurations. Dolby Digital 2.0 falls under Music configuration since there are no issues with LFE.

Composite Video, S-Video, Component Video:

Assign which video input (or 'None') is used when the Source is selected. For example, if you want the satellite picture always available when you select the FM•AM Tuner, assign the video inputs in the FM/AM menu to the same ones being used in the SAT menu. All video inputs can be assigned to multiple Sources.

Lip-Sync Delay (applies to MAIN only):

Using line doublers, quadruplers, or scalers causes the video to be delayed, which means that you will hear sound slightly ahead of seeing the video picture. This can also occur with HDTV and satellite broadcasts. To compensate, Lip-Sync Delay can delay the sound of all channels simultaneously by up to 85 milliseconds – please check the owner's manual for your doubler, quadrupler, or scaler for recommended delay settings. If you do not know how much delay is in the video, you can also set Lip-Sync Delay 'on-the-fly' as described in section 6.7 – this allows you to see the picture as you make adjustments.

Mode Presets (applies to MAIN only):

You can pre-select the Mode and THX preference that will be applied when a Source is selected or MAIN power is turned on. Each type of program material has a separate setting. Presets do not apply to Sources set to Anlg-Dir. **To disable a preset, set it to 'Last Used' and make new Mode selection after exiting Setup.**

For complete descriptions of surround modes and when to use them, refer to section 5.8.

Program Preset Selections

- **2.0** For stereo input, select any Mode in section 5.8.3, THX Games Mode, or Last Used. Dolby Pro Logic, Pro Logic IIx Movie, and Neo:6 Cinema can be set with or without THX Cinema.

The following presets apply to Digital inputs only:

- **2.0-Sur** Separate setting especially for surround-flagged Dolby Digital 2.0 material (section 5.8.2), normally PLIIx Movie but any setting that applies to regular stereo input can also be used.
- **DD-5.1** Select your playback preference for Dolby Digital 5.1 material: PLIIx Movie (either with or without THX Cinema), PLIIx Music, Dolby D EX, THX Surround EX, THX Cinema, THX Ultra2 Cinema, THX MusicMode, THX Games Mode, Neo:6 (either with or without THX Cinema), Last Used, or None (see sections 5.8.4 and 5.8.6).
- **DD-EX** For material encoded in Dolby Digital Surround EX: PLIIx Movie (either with or without THX Cinema), PLIIx Music, Dolby D EX, THX Surround EX, Neo:6 (either with or without THX Cinema), Same as DD-5.1, Last Used, or None (see sections 5.8.4 and 5.8.6)
- **DTS-5.1** For DTS material: Neo:6 (with or without THX Cinema), PLIIx Movie (either with or without THX Cinema), PLIIx Music, Dolby D EX, THX Cinema, THX Ultra2 Cinema, THX MusicMode, THX Games Mode, Last Used, or None (sections 5.8.5 and 5.8.6).
- **DTS-ES** For DTS-ES: DTS-ES Matrix (with or without THX Cinema), PLIIx Movie (with or without THX Cinema), PLIIx Music, Dolby D EX, Same as DTS, Last Used, or None (see sections 5.8.5 and 5.8.6). Note that for ES Discrete, this setting is overridden and playback is in 6.1.

Use the ▲ ▼ buttons to highlight one of the lines above in the menu, then use the ◀ ▶ buttons to scroll through the selections.

7. SETUP MENU continued ...

SOURCE SETUP/PRESET EXAMPLES

Example 1: Rename AUX to 'GAME'.

- Enter the Setup (section 7.1). Go to '5. SOURCE SETUP / PRESETS' and press **SELECT**.
- Press the ▼ button until you reach 'j. AUX' and press **SELECT**.
- 'a. RENAME: AUX' will be highlighted in red.
- Press **SELECT**. The first character 'A' will be highlighted in red.
- Use the Master Control Knob or the ▲ ▼ buttons to change characters. Change the first one to 'G'.
- Press the ▶ button to move to the next character. Change it to 'A'.
- Use the ◀ ▶ buttons to move to each remaining character. Change to 'M' and 'E'.
- Press **BACK** to leave the submenu and return to the main menu.

Example 2: Change SAT Digital Input from 'RCA' to 'Toslink' (TOS1).

- Make sure satellite receiver is connected to TOS1 and playing.
- Enter the Setup (section 7.1). Go to '5. SOURCE SETUP / PRESETS' and press **SELECT**.
- Press the ▼ button until you reach 'h. SAT' and press **SELECT**.
- Press the ▼ button until you reach 'b. AUDIO IN: Dig RCA DVD' and press **SELECT**.
- 'RCA DVD' will be highlighted. Use the ▲ ▼ buttons to change to 'TOS1' (sound will now be heard).
- Press **BACK** to leave the submenu and return to the main menu.

Example 3: Adjust TAPE Source Equalization.

- Make sure TAPE source component is connected to Analog Inputs and playing.
- Enter the Setup (section 7.1). Go to '5. SOURCE SETUP / PRESETS' and press **SELECT**.
- Press the ▼ button until you reach 'd. TAPE' and press **SELECT**.
- Press the ▼ button until you reach 'c. EQ' and press **SELECT**.
- Use the ◀ ▶ buttons to move to 'LF' or 'HF'. Use the ▲ ▼ buttons to adjust.
- Press **BACK** to leave the submenu and return to the main menu.

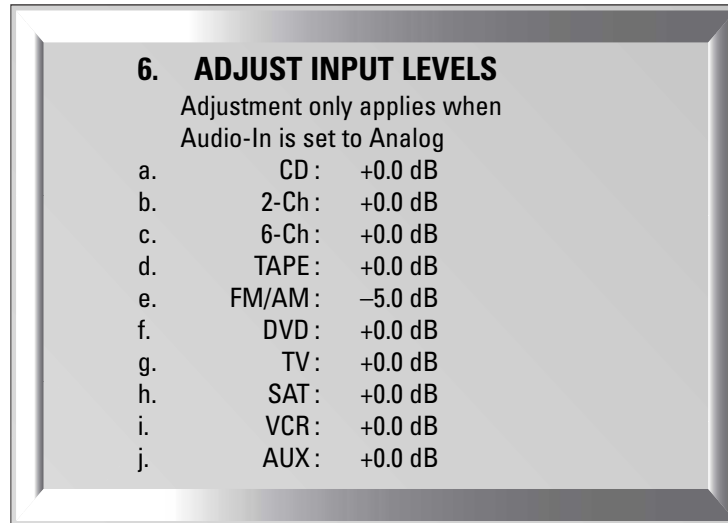
Example 4: Set SAT Lip-Sync Delay to 60 milliseconds.

- Enter the Setup (section 7.1). Go to '5. SOURCE SETUP / PRESETS' and press **SELECT**.
- Press the ▼ button until you reach 'h. SAT' and press **SELECT**.
- Press the ▼ button until you reach 'f. LIP-SYNC DELAY' and press **SELECT**.
- Use the ◀ ▶ buttons to move from digit to digit and the ▲ ▼ buttons to adjust to '60 ms'.
- Press **BACK** to leave the submenu and return to the main menu.

7. SETUP MENU continued ...

7.4.6 ADJUST INPUT LEVELS

For Sources set to Anlg-DSP or Anlg-Dir in menu 5, you can match input levels in MAIN to each other so there are no large changes in volume as you change Sources.



If a source that is set to Analog-DSP is playing while you adjust the Input Level, you will notice a vertical bar graph to the left of the dB setting. With the On-Screen display, this Bar Graph changes from green to pink, to warn that there is 6 dB of headroom left. With pop music material, an occasional transition into the pink region does not necessarily mean that the input is overloaded. If the bar graph stays pink constantly, reduce the level until the bar graph becomes green for the most part.

Before making changes or adjustments in this menu, have all connected source components playing similar music material. Then, as you switch through each highlighted Source, you will hear that component play. This lets you know that each component is connected to the AVM 30, and it also allows for easy comparative level adjustments of analog sources. Remember, adjusting input levels only functions with Sources set to Analog in menu 5, and the bar graph only works with Analog-DSP setting.

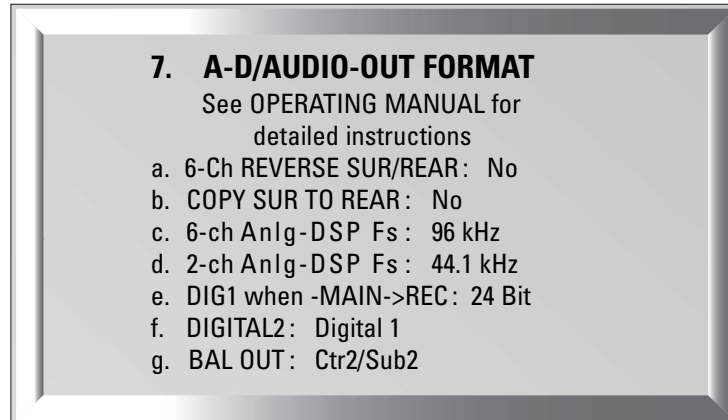
Example: Adjust TAPE Input Level.

- Make sure a source component is connected to TAPE Analog L/R Input and playing.
- Enter the Setup (section 7.1). Go to '6. ADJUST INPUT LEVELS' and press **SELECT**.
- Press the ▼ button until you reach 'd. TAPE: +0.0 dB'.
- Press **SELECT**. '+0.0 dB' will be highlighted in red.
- Use the ▲ ▼ buttons to change the Level.
- When finished, press **BACK** and then ▲ ▼ to go to another Source, or...
- Press **BACK** to leave the submenu and return to the main menu.

7. SETUP MENU continued ...

7.4.7 A-D/AUDIO-OUT FORMAT

In the A-D/Audio-Out Format menu you can re-configure the Surround and Rear channels, set analog to digital conversion parameters for the digital Record output, and configure the balanced analog outputs.



Reverse Surrounds/Rears:

If you're using a 7.1 speaker system and prefer the Rear speakers instead of the Surrounds when 6-Ch S/E is selected, set REVERSE SUR/REAR to 'Yes' and **re-connect the AVM 30 as follows**: Surround outputs on the AVM 30 to the Rear inputs on your amplifier, and the Rear AVM 30 outputs to the Surround amplifier inputs. The 6-Ch Surround inputs will now play through your Rear speakers. The AVM 30 flips the SUR/REAR channels back to normal whenever THX is turned on for the 6-Ch input or when any other input is selected, thereby maintaining correct speaker configuration at all times.

Copy Surrounds to Rears:

When playing material or using a Mode that has Surround channel information but no Rear information, setting this to 'Yes' plays the Surround channel out of both sets of speakers.

Sampling Frequency (Fs):

When a Source that is set to Anlg-DSP is copied from MAIN to RECORD, the analog signal is converted to digital using the AVM 30's high-end A/D converters, and sent to DIGITAL1. This is useful for recording analog music on a CD burner or computer with S/PDIF input on the sound card. You can select from 44.1, 48, 88.2, or 96 kHz sampling rates. Recording level is set by the input level in menu 6 (see sections 5.2.1 and 7.4.6).

This is also the signal processing rate for MAIN. **Neo:6 does not function when '2-Ch Anlg-DSP Fs' is set to 88.2 kHz or 96 kHz**, therefore leave this set to 44.1 or 48 kHz unless a recording is being made, and then use 48, 88.2, or 96 kHz only if the equipment connected to DIGITAL1 and DIGITAL2 is capable of accepting those sampling rates – audio CD burners can not.

For the 6-Ch S/E input, a separate setting is used so that bass management, time alignment, Mode, Bass/Treble, Lip-Sync Delay, and THX can be performed at the same high resolution that DVD-Audio and SACD provide. When 6-Ch S/E is copied from MAIN to RECORD, the DIGITAL1 output is a 2-channel downmix.

Bit Rate of DIGITAL1 when MAIN is copied to REC:

Choose from 16 or 24 bit output, to match the recorder. At 16 bits, dither is added to improve low level signals.

Output of DIGITAL2:

Set it to have the same output as DIGITAL1, or a fixed output from any Source set to Digital (DVD, SAT, etc.). DIGITAL1 and DIGITAL2 transmit data from digital sources in the same format it comes in – if it's Dolby Digital or DTS encoded, it stays that way and can be linked to other digital equipment.

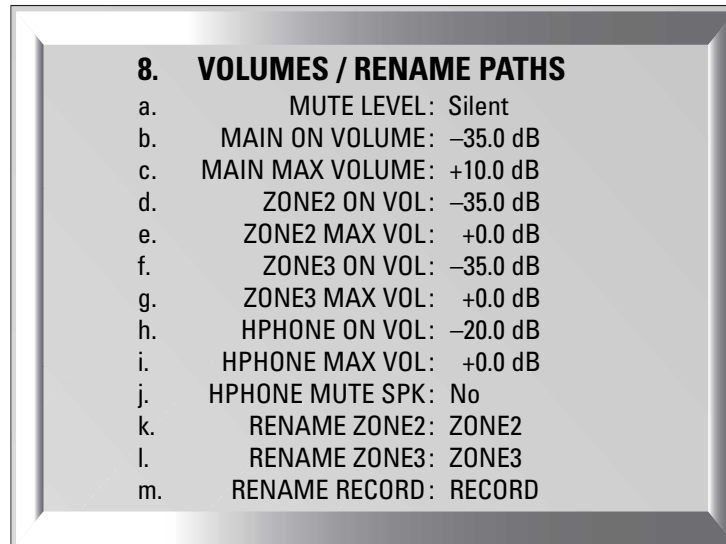
Balanced Output:

If the Balanced CENTER2 and SUB2 outputs are not in use for a second Center channel or Subwoofer in MAIN, they can be used as Balanced ZONE2 L/R outputs (see section 4.2.5).

7. SETUP MENU continued ...

7.4.8 VOLUMES / RENAME PATHS

This menu allows you to define the power-on volume settings, set whether or not MAIN outputs shut off when headphones are used, and to rename ZONE2, ZONE3, and RECORD.



Mute Amount:

When MUTE is pressed, sound can cut out completely, or decrease in volume by the amount that you set to keep some of it in the background – select from ‘Silent’, or -5 to -30 dB in 5 dB steps.

Power-On Volume:

When you turn MAIN, ZONE2, or ZONE3 on, or plug in your headphones, the volume for each will come on at the known levels you have set in this menu. This avoids any potential ‘surprises’ of not knowing the volume someone had set when turning the AVM 30 off, and then having the power-on volume be either too loud or quiet. You can set independent volumes for MAIN, ZONE2, ZONE3, and HEADPHONE.

Maximum Volume:

These settings allow you to individually limit the volume of MAIN, ZONE2, ZONE3, or HEADPHONE to avoid damaging your equipment and/or your ears. This can also serve as a parental volume control feature. The range of settings available for MAIN is from -95.5 dB to +31.5 dB in steps of .5 dB, and for ZONE2, ZONE3, and HEADPHONE, the range is from -70.0 dB to +10.0 dB in 1.25 dB steps.

To set a fixed output for ZONE2 or ZONE3, scroll MAX VOL past +10.0 dB to set ‘LockOnVol’ and then set the desired fixed output level in ON VOL. When the Path is on, ‘Lock’ is displayed beside the volume readout to indicate that its volume cannot be changed with the volume control.

Headphone Mutes Speakers:

Determines whether or not the MAIN speakers turn off when headphones are plugged into the Front Panel:

- **‘Yes’** The MAIN speakers mute. “HPHONE” is displayed instead of “MAIN” to indicate that adjusting Volume, Bass, Treble, and Balance affect HEADPHONE only.
- **‘No’** MAIN speakers continue to play when headphones are plugged in. (To make headphone adjustments see sections 5.2 to 5.7.)

Rename Path:

The factory assigned Path names that appear on the Front Panel and On-Screen displays can be changed to another name up to six characters long – procedure is the same as Rename Source (section 7.4.5).

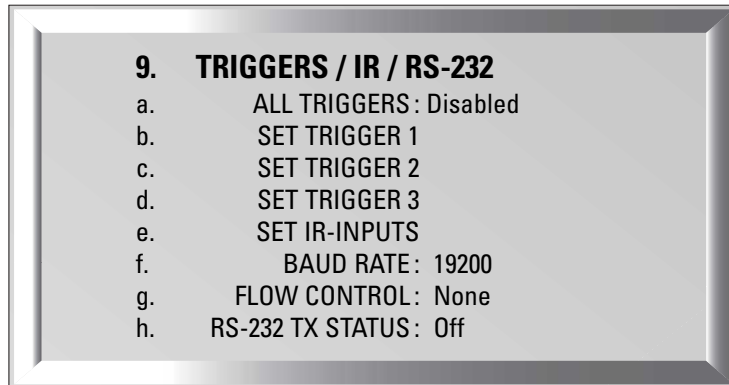
7. SETUP MENU continued ...

7.4.9 TRIGGERS / IR / RS-232

When a trigger output on the AVM 30 is connected to the trigger input of another component, such as a power amplifier or video projector, the AVM 30 can turn the component on or off according to the trigger's Setup. For components that do not use triggers, a triggerable power bar may work (see your dealer).

- **Trigger1** and **Trigger2**: Provide standard trigger output of 12 volts with up to **50 mA** of current, suitable for typical source components and most amplifiers.
- **Trigger3**: Provides an output of 12 volts with up to **200 mA** of current, suitable for triggers on motorized projection equipment and very high power amplifiers.

There is a quarter of a second delay between each trigger to minimize momentary line voltage drops caused by switching on too many devices at the same time.

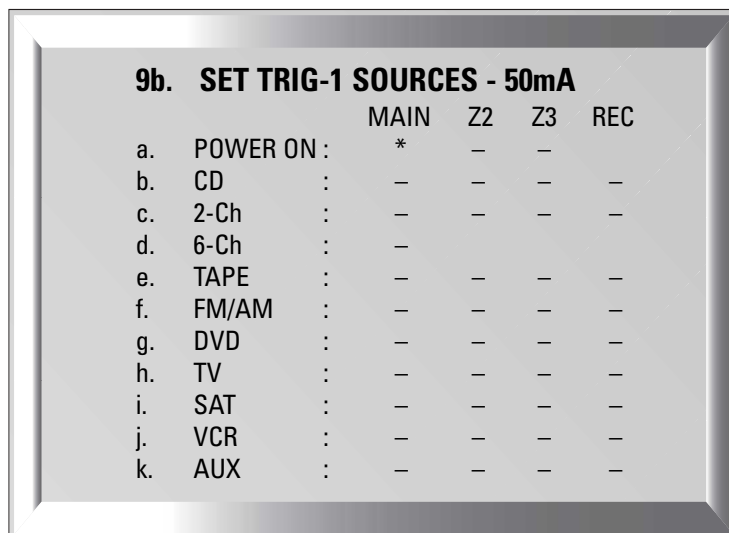


All Triggers:

When on 'Disabled' all triggers remain off. When on 'Enabled' the trigger chart below is used to set conditions. For custom installations, 'RS-232 Ctrl' uses external control over all triggers.

Set Trigger:

Highlighting 'b. SET TRIGGER 1' and then pressing **SELECT** displays this menu – in the example shown, TRIGGER 1 activates whenever MAIN power is turned on:



Under each of the four Paths, MAIN, ZONE2 (**Z2**), ZONE3 (**Z3**), and RECORD (**REC**), notice that there are 40 available Sources (40 dashes) that could be used to activate the trigger. After highlighting POWER ON or a Source, press **SELECT** and use the ◀ ▶ buttons to move from one Path to another, and then to set the trigger to activate, use the ▲ ▼ buttons to change the '-' to a '*' (be sure ALL TRIGGERS is set to 'Enabled').

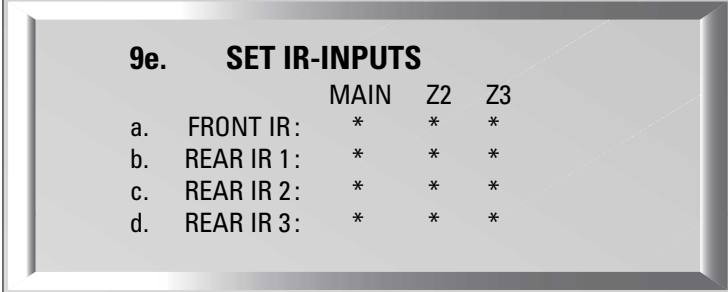
7. SETUP MENU continued ...

Note: Changes to the trigger setup do not take effect until the Setup Menu is exited completely, to avoid unnecessary rapid turning off and on of triggers while changes are being made.

Set IR Inputs:

This allows you to enable or disable the AVM 30's Front IR Receiver and Rear IR Inputs. Being able to do so can be useful when an IR repeater, connected to the AVM 30, is located in the same room as the AVM 30. In such a case, the AVM 30 can receive two IR signals for the same command – one from the Remote Control and one from the repeater. The problem is that rear signal is delayed slightly, and may confuse the IR Receivers' control circuits. Disabling the Front IR solves this problem.

In other situations, the IR signal may find its way to the internally mounted IR receiver through the vents in the top cover. This could also cause confusion for the AVM 30. If the Rear IR inputs are not in use, simply disable them to prevent any potential problems.



		MAIN	Z2	Z3
a.	FRONT IR:	*	*	*
b.	REAR IR 1:	*	*	*
c.	REAR IR 2:	*	*	*
d.	REAR IR 3:	*	*	*

After highlighting an IR input, press **SELECT** and use the ◀ ▶ buttons to move from one Path to another. To turn the input off, use the ▲ ▼ buttons to change the '*' to a '-'. Do this through the Front Panel, since Remote Control commands are ineffective once an IR sensor is turned off.

Note: If the AVM 30 does not respond to Remote Control commands, check the FRONT IR menu – enter the Setup using the Front Panel buttons, go to menu '9. TRIGGERS/IR/RS-232', followed by 'e. SET IR-INPUTS', and make sure the FRONT IR settings are set to '*'.

Baud Rate and Flow Control:

The Baud Rate (adjustable from 1200 to 115200 bps), and Flow Control ('RTS', 'CTS', or 'None'), allow configuration of the serial port communication parameters (normally for use by dealer/installers only).

RS-232 TX Status:

When 'On', all commands, status changes, and control information are echoed through the RS-232 port (normally for use by dealer/installers only).

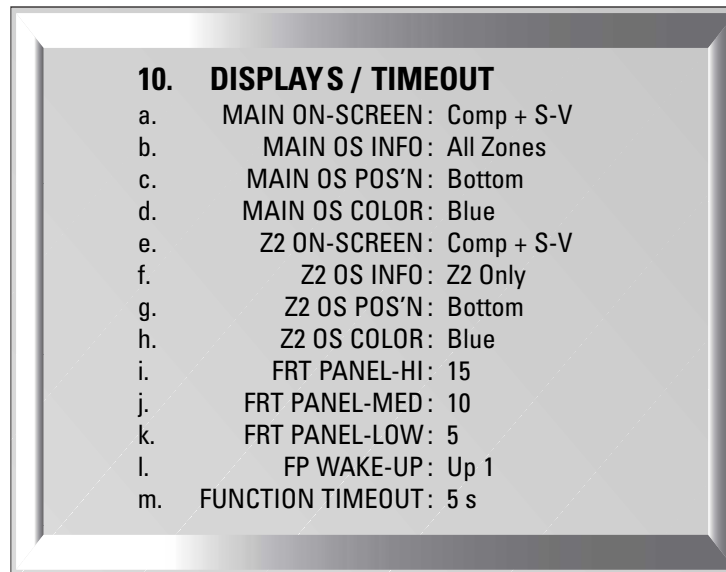
Example: Activate Trigger1 when DVD is selected in MAIN.

- Enter the Setup (section 7.1). Go to '9. TRIGGERS/IR/RS-232' and press **SELECT**.
- Upon entering this menu item, 'a. ALL TRIGGERS: Disabled' will be highlighted in red.
- Use the ◀ ▶ buttons to change to 'Enabled'.
- Press the ▼ button to go to 'b. SET TRIGGER 1. Press **SELECT**.
- Use the ▲ ▼ buttons to go to 'DVD'. Press **SELECT**.
- Use the ▲ ▼ buttons to change the '-' to '*'.
- Press **BACK** twice to leave this submenu.

7. SETUP MENU continued ...

7.4.10 DISPLAYS / TIMEOUT

This menu allows you to configure both the On-Screen display, Front Panel display and Selection Time.



Main / Z2 On-Screen:

Lets you select the outputs that receive the On-Screen display – 'Composite', 'S-Video', or both. 'Bypassed' turns the On-Screen display off; if you choose 'Bypassed', you will have to rely on the Front Panel display.

Note: On-Screen display is not available for Component Video.

Main / Z2 OS Info:

From here, select the Path adjustments that are shown by the MAIN or ZONE2 On-Screen displays. For example, if ZONE2 is set up with an IR repeater for the Remote Control, and you are using the AVM 30 in the MAIN room, you may not want to be disturbed by information about adjustments made in ZONE2 by someone else. In a different situation, you may want to see the ZONE2 information, for example, while adjusting ZONE2 yourself from the MAIN room.

Main / Z2 OS Position:

Allows you to position the On-Screen display to reduce the chance of it interfering with the on-screen display positions of other video components (e.g. satellite receiver or a TV monitor's own display, etc.). Choose from: 'Bottom', 'Mid', or 'Top'.

Main / Z2 OS Color:

If the On-Screen display of the Setup Menu appears unstable, it could be that your monitor is not synchronizing to the blue (factory default) background color. You can change the background color to one that your projector/monitor can synchronize to – black and magenta are also available.

Front Panel Brightness:

Simultaneously adjusts the intensity level of the Front Panel display and LED indicators. Three separate adjustments can be made – HI, MED, and LOW when the DISPLAY button is used (section 5.9). Use HI to set the daytime level, MED for the evening level and LOW for the nighttime level.

Front Panel Wake-Up:

If Display is set to Medium, Low, or Off, it can be made to change to a brighter level while you make any adjustment, to either one level higher or Hi – choose 'None', 'Up 1', or 'Hi'. When 'None' is chosen and the Display is Off, it will behave as if set to 'Up 1' to prevent confusion as to whether the power is on or off.

7. SETUP MENU continued ...

Function Timeout:

This is the time that elapses after any adjustment is made. Once the Function Time elapses, the On-Screen text disappears and the Front Panel display becomes dim. This also applies to how long ZONE2, ZONE3, RECORD, and HEADPHONE information is displayed before MAIN display information returns. You can set Function Timeout between 1 and 15 seconds.

Example: Set the position of the MAIN On-Screen information to the middle of the monitor.

- Enter the Setup (section 7.1). Go to '10. DISPLAYS/TIMEOUT' and press **SELECT**.
- Press the ▼ button until you reach 'c. MAIN OS POS'N: Bottom'.
- Use the ◀ ▶ buttons to change to 'Middle'.
- When finished, press ▲ ▼ to go to another menu item, or...
- Press **BACK** to leave the submenu and return to the main menu.

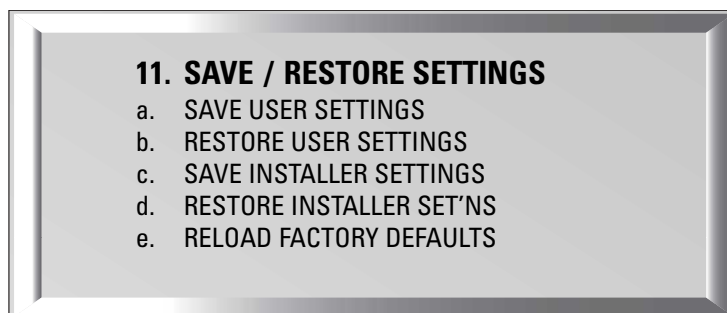
7. SETUP MENU continued ...

7.4.11 SAVE / RESTORE SETTINGS

The AVM 30 enables you to save your entire Setup configuration. Two separate save files are provided: USER SETTINGS and INSTALLER SETTINGS. If your system is set up by your dealer, the configuration can be saved in the INSTALLER file by the dealer. You can then make further Setup adjustments – save those settings separately in your own USER file. FM•AM presets are also saved separately in USER SETTINGS and INSTALLER SETTINGS.

If someone makes unwanted changes to the Setup Menu of your AVM 30, you can quickly and easily restore either the dealer's INSTALLER settings or your USER settings, thereby preventing the need to run through the Setup procedure all over again. FM•AM presets saved in USER SETTINGS or INSTALLER SETTINGS will also be restored.

The original FACTORY DEFAULTS can also be reloaded at any time to reset the AVM 30 to the factory settings. As well, surround mode level, balance and bass/treble adjustments described in sections 5.6 and 5.7 will be reset to 0 dB, and Mode settings described in section 5.8 will be reset to 'None' for all Sources.



Save Settings:

You can save settings with or without the use of a Password. Passwords are very easy to set up (see section 7.4.12) and will protect both USER and INSTALLER files from being changed by anyone who doesn't have the Password. **New saves will overwrite the previously saved file.** The AVM 30 will prompt you to confirm that you want to over-write currently saved settings – press **BACK** at this point to abort a save.

Restore or Reload Settings:

You may RESTORE USER SETTINGS, INSTALLER SETTINGS, or RELOAD FACTORY DEFAULTS at will. The AVM 30 will prompt you to confirm that you want to replace the current settings – press **BACK** at this point to abort a restore.

Example 1: Save User Settings.

Note: FM•AM Tuner presets will also be saved in USER SETTINGS.

- Enter the Setup (section 7.1). Go to '11. SAVE/RESTORE SETTINGS' and press **SELECT**.
- Upon entering this menu item, 'a. SAVE USER SETTINGS' will be highlighted in red.
- Press **SELECT**. You will be asked to confirm that you want to over-write current settings.
- Use the ◀ ▶ buttons and change to 'Yes'. If you are using a Password (section 7.4.12), you will be asked for it. Use the 0–9 buttons to enter your Password. The On-Screen display message will then say 'Saving Successful', the Front Panel display will say 'Done!'.
- When finished, press ▲ ▼ to go to another menu item, or...
- Press **BACK** to leave the submenu and return to the main menu.

7. SETUP MENU continued ...

Example 2: Restore Installer Settings.

Note: FM•AM Tuner presets that were saved in INSTALLER SETTINGS will also be restored.

- Enter the Setup (section 7.1). Go to '11. SAVE/RESTORE SETTINGS' and press **SELECT**.
- Press the ▼ button until you reach 'd. RESTORE INSTALLER SET'NS'.
- Press **SELECT**. You will be asked to confirm that you want to restore installer settings.
- Use the ◀ ▶ buttons to change to 'Yes' and press **SELECT**. On-Screen display message will then say 'Saving Successful', the Front Panel display will say 'Done!'.
- When finished, press ▲ ▼ to go to another menu item, or...
- Press **BACK** to leave the submenu and return to the main menu.

Example 3: Reload Factory Defaults.

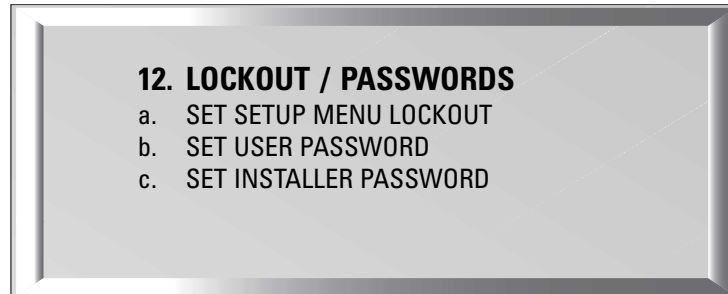
Note: The current time and FM•AM Tuner presets will be retained. Surround mode level, balance, bass/treble adjustments (sections 5.6 and 5.7), and Modes (section 5.8) will be reset to +0.0 dB.

- Enter the Setup (section 7.1). Go to '11. SAVE/RESTORE SETTINGS' and press **SELECT**.
- Press the ▼ button until you reach 'e. RELOAD FACTORY DEFAULTS'.
- Press **SELECT**. You will be asked to confirm that you want to 'reload factory settings'.
- Use the ◀ ▶ buttons to change to 'Yes' and press **SELECT**. On-Screen display message will then say 'Saving Successful', the Front Panel display will say 'Done!'.
- When finished, press ▲ ▼ to go to another menu item, or...
- Press **BACK** to leave the submenu and return to the main menu.

7. SETUP MENU continued ...

7.4.12 LOCKOUT / PASSWORDS

Passwords are used to protect the saved User and Installer settings. Once you have set a password, it can also be used as a Lockout to prevent settings from being changed by anyone without one of the passwords.



Set Setup Menu Lockout:

When set to 'Yes', this prevents anyone without a password from entering the Setup. When you attempt to enter the Setup, you will be asked for your Password – either the USER or INSTALLER Password must then be entered from the Remote Control before you will be allowed to continue.

Set User or Installer Password:

When setting the USER or INSTALLER Password, you will be asked to enter a four digit number. Pick one that you will remember easily. To enter that number, use the **0 – 9** keys on the Remote Control (password cannot be entered from the Front Panel). To change an existing password, enter the old one first, then enter (and confirm) the new one.

Example 1: Set User Password (Remote Control only).

- Enter the Setup (section 7.1). You must enter the USER or INSTALLER Password if there is one.
- Go to '12. LOCKOUT/PASSWORDS' and press **SELECT**.
- Press the **▼** key to go to 'b. SET USER PASSWORD'.
- Press **SELECT**. You will be asked to enter a four digit number. Use the **0 – 9** keys to do so. If you are changing your Password you will be asked to enter your old Password first. You will also be asked to confirm your new Password (re-enter your new Password).
- When finished, press **▲ ▼** to go to another menu item, or...
- Press **BACK** to leave the submenu and return to the main menu.

Clearing the User Password: When asked for your new Password, press the **▶** key four times. You will also be asked to confirm your new Password – press the **▶** key four times again. Message will then say 'User Password Removed'.

Example 2: Set Setup Menu Lockout.

- Enter the Setup (section 7.1). Go to '12. LOCKOUT/PASSWORDS' and press **SELECT**.
- Upon entering this menu item, 'a. SET SETUP MENU LOCKOUT' will be highlighted in red.
- Press **SELECT**. You will be asked to enter your Password. Either the USER or INSTALLER Password will work. Use the **0 – 9** keys to do so.
- Use the **◀ ▶** buttons to change to 'Yes' or 'No'.
- Press **SELECT** or **BACK**.
- When finished, press **▲ ▼** to go to another menu item, or...
- Press **BACK** to leave the submenu and return to the main menu.

8. SOFTWARE UPDATING

The operational characteristics of the AVM 30 are controlled by software that can be easily upgraded via the RS-232 port on the Rear Panel. New software can be downloaded from our web site, and then transferred by connecting the AVM 30 to your computer's serial port and running the Software Installer.

8.1 SOFTWARE VERSION IDENTIFICATION

If you want to see which Software Version is in your AVM 30, press **STATUS**. The display will show:



Please contact your dealer or visit the AVM 30 page on our web site at www.anthemAV.com to find the latest Software, and any operating manual updates that go along with new versions.

8.2 SOFTWARE UPDATING VIA YOUR DEALER

To do this, you will have to take your AVM 30 to your Authorized Anthem Dealer. To save yourself time and trouble, please remember to call your dealer first to find out if you should get the latest Software version, and then arrange a time to install the update. **Note:** Your dealer may charge for this service.

8.3 SOFTWARE UPDATING VIA YOUR COMPUTER AND THE INTERNET

To update the Software through your computer, you will need the following:

- Access to the Internet.
- Serial cable – straight wired, with one end DB9 male for the AVM 30, and the other, DB9 female or DB25 female for your computer. A similar looking null-modem cable will not work.

Typically, a cable length of up to 100 feet (33 meters) will work for a long distance connection to your computer. You may also install this cable permanently to enable easy future updates. When it's not in use, disconnecting it either behind the computer or the AVM 30 is recommended, to prevent the possibility of a ground loop.

Computer System Requirements:

- Win9x, NT, ME, 2000, or XP.
- 1 MB free space on the hard drive.
- Serial port. The Software Installer automatically detects the port being used (COM1 to COM4). **If your computer does not have a serial port but has a USB port**, you will need a USB-to-serial adapter (its driver program must also be installed on your computer).

Note: Before running the Installer, check your computer's power management settings – particularly if using a laptop – to ensure that the Software Update does not get interrupted while running.

8. SOFTWARE UPDATING continued ...

Software installation procedure:

1. Find out which Software version you currently have by pressing **STATUS**.
2. Go to the ANTHEM web site (www.anthemAV.com) and locate the latest AVM 30 Software version. Proceed only if your version is a lower number, indicating that it is older.
3. Click on the download icon. You will be asked where to save a file called 'avm30install.zip' – save it to your computer's desktop.
4. Double click on 'avm30install.zip'. If your computer tells you that the file cannot be opened, you can download a program that can open the file through one of the links on the ANTHEM web site.
5. Drag or extract 'AVM 30 Installer.exe' and 'Read Me First.txt' to desktop. 'Read Me First.txt' lists the latest software changes. You can now delete 'avm30install.zip'.
6. Ensure that your current AVM 30 Setup configuration is saved (see section 7.4.11).
7. Turn off your AVM 30 and **disconnect the power cord** to prevent the possibility of a static discharge when the serial port is connected. Tuner presets, speaker level settings, bass/treble, etc. are automatically written to memory if the line voltage is disconnected or during a power failure.
8. Using the serial cable, connect your computer to the AVM 30 via the RS-232 port on the rear panel. Updating does not require moving the AVM 30 or disconnecting it from your system, as long as you can connect your computer to the RS-232 port.
9. Plug the AVM 30's power cord back in and turn the rear panel switch on.
10. Double click on 'AVM 30 Installer.exe', then click on 'Install Upgrade Now'. In a few minutes, the installation and verification will be completed.

Restore Settings?

You do not need to Restore or Recall any settings after installing new software. The AVM 30 will retain the settings that were in use before the update, except that the day and time will be set according to your computer's day and time settings – if re-adjustment is required, see section 7.4.1.

Troubleshooting:

If the Installer keeps returning a message that says 'AVM 30 Not Found' after several attempts, restore Factory Defaults in the Setup Menu, try installing again, and reload User Settings once the new software is installed. If that doesn't work, make sure that the serial port on your computer isn't already being used by another application, such as a docking station for a personal organizer – you must go into the application that is using it to turn off the serial port.

APPENDIX A - IR MACROS

Using the factory remote control's IR codes for MAIN Path, the following 3-key sequences can be programmed into macro-capable remotes for direct access to Modes and tuner banks:

For Stereo sources:

MODE, 0, 1 – Stereo
MODE, 0, 2 – AnthemLogic-Music
MODE, 0, 3 – AnthemLogic-Cinema
MODE, 0, 4 – Pro Logic IIx Music
MODE, 0, 5 – Pro Logic IIx Movie
MODE, 0, 6 – Dolby Pro Logic
MODE, 0, 7 – DTS Neo:6 Music
MODE, 0, 8 – DTS Neo:6 Cinema
MODE, 0, 9 – All Channel Stereo
MODE, 1, 0 – All Channel Mono
MODE, 1, 1 – Mono
MODE, 1, 2 – Mono-Academy
MODE, 1, 3 – Pro Logic IIx Matrix
MODE, 1, 4 – Pro Logic IIx Game
THX, 0, 1 – THX Off
THX, 0, 2 – THX Cinema
THX, 0, 3 – THX Games Mode

For Surround-flagged Dolby Digital 2.0 sources:

MODE, 2, 1 – Stereo
MODE, 2, 2 – AnthemLogic-Music
MODE, 2, 3 – AnthemLogic-Cinema
MODE, 2, 4 – Pro Logic IIx Music
MODE, 2, 5 – Pro Logic IIx Movie
MODE, 2, 6 – Dolby Pro Logic
MODE, 2, 7 – DTS Neo:6 Music
MODE, 2, 8 – DTS Neo:6 Cinema
MODE, 2, 9 – All Channel Stereo
MODE, 3, 0 – All Channel Mono
MODE, 3, 1 – Mono
MODE, 3, 2 – Mono-Academy
MODE, 3, 3 – Pro Logic IIx Matrix
MODE, 3, 4 – Pro Logic IIx Game
THX, 0, 4 – THX Off
THX, 0, 5 – THX Cinema
THX, 0, 6 – THX Games Mode

Pro Logic IIx Music adjustment:

MODE, 4, 1 – Center Width display
MODE, 4, 2 – Dimension display
MODE, 4, 3 – Panorama Off
MODE, 4, 4 – Panorama On

Neo:6 Music adjustment:

MODE, 4, 5 – Center Image display

For Dolby Digital 5.1 sources and 6-Ch input:

THX, 1, 0 – THX Off
THX, 1, 1 – THX Cinema
THX, 1, 2 – THX Ultra2 Cinema
THX, 1, 3 – THX MusicMode
THX, 1, 4 – THX Surround EX
THX, 1, 5 – THX Games Mode
THX, 1, 6 – PLIIx Movie
THX, 1, 7 – PLIIx Movie+THX Cinema
THX, 1, 8 – PLIIx Music
THX, 1, 9 – Dolby Digital EX
THX, 2, 0 – Neo:6
THX, 2, 1 – Neo:6+THX Cinema

For Dolby Digital Surround EX-flagged sources:

MODE, 5, 1 – None
MODE, 5, 2 – Dolby Digital EX
MODE, 5, 3 – THX Surround EX
MODE, 5, 4 – PLIIx Movie
MODE, 5, 5 – PLIIx Movie+THX Cinema
MODE, 5, 6 – PLIIx Music
MODE, 5, 7 – Neo:6
MODE, 5, 8 – Neo:6+THX Cinema

For DTS sources:

THX, 4, 0 – THX Off
THX, 4, 1 – THX Cinema
THX, 4, 2 – THX Ultra2 Cinema
THX, 4, 3 – THX MusicMode
THX, 4, 4 – Neo:6+THX Cinema
THX, 4, 5 – THX Games Mode
THX, 4, 6 – PLIIx Movie
THX, 4, 7 – PLIIx Movie+THX Cinema
THX, 4, 8 – PLIIx Music
THX, 4, 9 – Dolby Digital EX
THX, 5, 0 – Neo:6

For DTS-ES sources:

MODE, 6, 1 – None
MODE, 6, 2 – DTS-ES Matrix
MODE, 6, 3 – DTS-ES+THX Cinema
MODE, 6, 4 – PLIIx Movie
MODE, 6, 5 – PLIIx Movie+THX Cinema
MODE, 6, 6 – PLIIx Music
MODE, 6, 7 – Dolby Digital EX

THX Re-EQ:

THX, 3, 0 – Re-EQ Off when THX is on
THX, 3, 1 – Re-EQ On when THX is on
THX, 3, 2 – Re-EQ Off when THX is off
THX, 3, 3 – Re-EQ On when THX is off

FM•AM Banks (ZONE2/3/REC codes also work):

MODE, 9, 0 – AM
MODE, 9, 1 – FM1
MODE, 9, 2 – FM2
MODE, 9, 3 – FM3

Some tips if you're using a macro-capable remote control:

- If you do not want separate Mode selection according to flagged vs. unflagged source material, you can program macros as a 6-key sequence, for example MODE, 0, 1, MODE, 2, 1 and flag will make no difference to selection.
- You can program your source selection keys with the power-on command preceding each source-select command. This way, when a Source is selected, the AVM 30 will turn on at the same time if it is off, similar to Front Panel operation.
- If your source components also have discrete commands for power-on and power-off, you can take the above idea even further, for example, program the TV button with the following sequence: Power-on the AVM 30, select TV Source in the AVM 30, power-on the satellite receiver / cable box, power-on the TV. This way, when the entire system is off and you or a family member wants to watch TV, 'just push TV'.

APPENDIX B – PRESET MEMORY CODES

The following codes are for operating other components with the remote control. Codes can **only** be used with their respective Path/Component key (e.g. a VCR code can not be programmed in the DVD Path/Component key). If codes for one of your components are not in this library, see section 6.8.4 for info on how to teach codes from your source remote.

To enter a 4-digit code:

1. Press the Path/Component key (e.g. **DVD**).
2. Press and hold **LEARN** until the LED flashes twice.
3. Enter the **4-digit code**. Two LED blinks indicate that the code is accepted.

Statement D1, AVM 20/30 – MAIN	0040
Statement D1, AVM 20/30 – ZONE2	0041
Statement D1, AVM 20/30 – ZONE3	0042
AVM 2 – MAIN	0043
AVM 2 – ZONE2	0044
CD 1	0897
Sonic Frontiers SFT 1	0157
Sonic Frontiers SFCD 1	0157
Sonic Frontiers Transport 3	0157

TVs:

AOC	0030, 0019
Admiral	0093, 0463
Aiko	0092
Akai	0030
Alaron	0179
Ambassador	0177
America Action	0180
Ampro	0751
Anam	0180
Audiovox	0451, 0180, 0092, 0623
Baysonic	0180
Belcor	0019
Bell & Howell	0154, 0016
Bradford	0180
Brockwood	0019
Broksonic	0236, 0463
CXC	0180
Candle	0030, 0056
Carnivale	0030
Carver	0054
Celebrity	0000
Cineral	0451, 0092
Citizen	0060, 0030, 0056, 0039, 0092
Concerto	0056
Contec	0180
Craig	0180
Crosley	0054
Crown	0180, 0039
Curtis Mathes	0047, 0054, 0154, 0051, 0451, 0093, 0060, 0030, 0145, 0056, 0016, 0039, 0166, 0466, 1147, 1347
Daewoo	0451, 0019, 0039, 0092, 0623, 0624
Daytron	0019
Denon	0145
Dumont	0017, 0019
Dwin	0720, 0774
Electroband	0000
Emerson	0154, 0236, 0463, 0180, 0282, 0178, 0019, 0179, 0039, 0177, 0623, 0624
Envision	0030
Fisher	0154
Fujitsu	0179
Funai	0180, 0179, 0171
Futuretech	0180
GE	0047, 0051, 0451, 0093, 0282, 0178, 0021, 0135, 1147, 1347
Gibraltar	0017, 0030, 0019
GoldStar	0030, 0178, 0019, 0056
Gradiente	0053, 0056
Grunpy	0180, 0179
Hallmark	0178
Harley Davidson	0179
Harman/Kardon	0054

Harvard	0180
Hitachi	0145, 0056, 0151
Infinity	0054
Inteq	0017
JBL	0054
JCB	0000
JVC	0053
KEC	0180
KTV	0180, 0030, 0039
Kenwood	0030, 0019
LG	0056
LXI	0047, 0054, 0154, 0156, 0178
Logik	0016
Luxman	0056
MGA	0150, 0030, 0178, 0019
MTC	0060, 0030, 0019, 0056
Magnavox	0054, 0030, 0179
Majestic	0016
Marantz	0054, 0030
Matsushita	0250
Megatron	0178, 0145
Memorex	0154, 0250, 0463, 0150, 0178, 0056, 0016
Midland	0047, 0017, 0051, 0039, 0135
Minutz	0021
Mitsubishi	0093, 0150, 0178, 0019
Motorola	0093
Multitech	0180
NAD	0156, 0178, 0166
NEC	0030, 0019, 0056
NTC	0092
Nikko	0030, 0178, 0092
Onwa	0180
Optimus	0154, 0250, 0166
Optonica	0093, 0165
Orion	0236, 0463, 0179
Panasonic	0051, 0250
Penney	0047, 0156, 0051, 0060, 0030, 0178, 0021, 0019, 0056, 0039, 0135, 1347
Philco	0054, 0463, 0030, 0145, 0019
Philips	0054
Pilot	0030, 0019, 0039
Pioneer	0166
Portland	0019, 0039, 0092
Prism	0051
Proscan	0047
Proton	0178, 0466
Pulsar	0017, 0019
Quasar	0051, 0250, 0165
RCA	0047, 0051, 0093, 0019, 0090, 0135, 1047, 1147, 1247, 1347
Radio Shack	0047, 0154, 0165, 0180, 0030, 0178, 0019, 0056, 0039
Realistic	0154, 0165, 0180, 0030, 0178, 0019, 0056, 0039
Runco	0017, 0030, 0603
SSS	0180, 0019
Sampo	0030, 0039
Samsung	0060, 0030, 0178, 0019, 0056
Samsux	0039
Sansei	0451
Sansui	0463
Sanyo	0154
Scimitsu	0019
Scotch	0178

Scott	0236, 0180, 0178, 0019, 0179
Sears	0047, 0054, 0154, 0156, 0178, 0179, 0056, 0171
Semivox	0180
Semp	0156
Sharp	0093, 0165, 0039
Shogun	0019
Signature	0016
Sony	0000
Soundesign	0180, 0178, 0179
Squareview	0171
Starlite	0180
Supreme	0000
Sylvania	0054, 0030
Symphonic	0171
TMK	0178, 0056, 0177
Tandy	0093
Technics	0051, 0250
Technol Ace	0179
Techwood	0051, 0056
Teknika	0054, 0180, 0150, 0060, 0019, 0179, 0056, 0016, 0039, 0092
Telefunken	0056
Toshiba	0154, 0156, 0060
Totevision	0039
Vector Research	0030
Victor	0053
Vidikron	0054
Vidtech	0178, 0019
Wards	0054, 0165, 0030, 0178, 0021, 0019, 0179, 0056, 0016
White Westinghouse	0463, 0623, 0624
Yamaha	0030, 0019
Zenith	0017, 0463, 0016, 0092

VCRs:

Admiral	0048, 0209
Adventura	0000
Aiko	0278
Aiwa	0037, 0000
Akai	0041
America Action	0278
American High	0035
Asha	0240
Audiovox	0037
Beaumarck	0240
Bell & Howell	0104
Brocksonic	0209
Broksonic	0184, 0121, 0209, 0002
CCE	0072, 0278
Calix	0037
Canon	0035
Carver	0081
Cineral	0278
Citizen	0037, 0278
Colt	0072
Craig	0037, 0047, 0240, 0072, 0271
Curtis Mathes	0060, 0035, 0041, 0162
Cybernex	0240
Daewoo	0045, 0278
Denon	0042
Dynatech	0000
Electrohomet	0037
Electrophonic	0037
Emerex	0032
Emerson	0037, 0184, 0000, 0121, 0043, 0209, 0002, 0278

APPENDIX B – PRESET MEMORY CODES continued ...

Fisher	0047, 0104
Fuji	0035, 0033
Funai	0000
GE	0060, 0035, 0048, 0240
Garrard	0000
Go Video	0526
GoldStar	0037, 0038
Gradiente	0000
HI-Q	0047
Harley Davidson	0000
Harman/Kardon	0081, 0038
Harwood	0072
Headquarter	0046
Hitachi	0000, 0042, 0041
Hughes Net. Sys.	0042
JVC	0067, 0041
Jensen	0041
KEC	0037, 0278
KLH	0072
Kenwood	0067, 0041, 0038
Kodak	0035, 0037
LXI	0037
Lloyd's	0000
Logik	0072
MEI	0035
MGA	0240, 0043
MGN Technology	0240
MTC	0240, 0000
Magnasonic	0278
Magnavox	0035, 0039, 0081, 0000, 0149
Magnin	0240
Marantz	0035, 0081
Marta	0037
Matsushita	0035, 0162, 0454
Memorex	0035, 0037, 0048, 0039, 0047, 0240, 0000, 0104, 0209, 0046, 1162, 1262
Minolta	0042
Mitsubishi	0048, 0067, 0043
Motorola	0035, 0048
Multitech	0000, 0072
NEC	0104, 0067, 0041, 0038
Nikko	0037
Noblex	0240
Olympus	0035
Optimus	0037, 0048, 0104, 0162, 0454, 1062, 1162, 1262
Orion	0184, 0209, 0002
Panasonic	0035, 0162, 0225, 0454, 1162
Penney	0035, 0037, 0240, 0042, 0038
Pentax	0042
Philco	0035, 0209
Philips	0035, 0081
Pilot	0037
Pioneer	0067
Profitronic	0240
Proscan	0060
Protec	0072
Pulsar	0039
Quarter	0046
Quartz	0046
Quasar	0035, 0162, 0454, 1162
RCA	0060, 0035, 0048, 0240, 0042, 0149
Radio Shack	0000
Radix	0037
Randex	0037
Realistic	0035, 0037, 0048, 0047, 0000, 0104, 0046
Runco	0039
STS	0042
Samsung	0240, 0045
Sanky	0048, 0039
Sansui	0000, 0067, 0209, 0041, 0271
Sanyo	0047, 0240, 0104, 0046
Scott	0184, 0045, 0121, 0043
Sears	0035, 0037, 0047, 0000, 0042, 0104, 0046

Semp	0045
Sharp	0048
Shintom	0072
Shogun	0240
Singer	0072
Sony	0035, 0032, 0000, 0033
Sylvania	0035, 0081, 0000, 0043
Symphonic	0000
TMK	0240
Tatung	0041
Teac	0000, 0041
Technics	0035, 0162
Teknika	0035, 0037, 0000
Thomas	0000
Toshiba	0045, 0043
Totevision	0037, 0240
Unitech	0240
Vector	0045
Vector Research	0038
Video Concepts	0045
Videosonic	0240
Wards	0060, 0035, 0048, 0047, 0081, 0240, 0000, 0042, 0072, 0149
White Westinghouse	0209, 0278
XR-1000	0035, 0000, 0072
Yamaha	0038
Zenith	0039, 0000, 0209, 0033

TV/VCR Combos:

American High	0035 (TV - 0051)
Brocksonic	0002, 0294
Colt	0072
Curtis Mathis	0035 (TV - 0051)
Daewoo	0278
Emerson	0002, 0294, 0479
Funai	0000
GE	0035 (TV - 0051), 0060 (TV - 0047), 0048 (TV - 0093), 0240
Hitachi	0035 (TV - 0051), 0000
HQ	0000
Lloyds	0000
MGA	0240
Magnavox	0081 (TV - 0054), 0035 (TV - 0051), 0000
Magnin	0240
Memorex	0037, 0162 (TV - 0250)
Mitsubishi	0048 (TV - 0093)
Orion	0002, 0294, 0479
Panasonic	0035 (TV - 0051), 0162 (TV - 0250)
Penney	0035 (TV - 0051), 0240, 0162 (TV - 0250)
Quasar	0035 (TV - 0051), 0162 (TV - 0250)
RCA	0060 (TV - 0047), 0035 (TV - 0051), 0048 (TV - 0093)
Sansui	0000, 0479
Sanyo	0240
Sears	0000, 0037
Sharp	0048 (TV - 0093)
Sony	0032 (TV - 0000)
Symphonic	0000
Zenith	0000

Cable Converters:

ABC	0003, 0008, 0014, 0017, 0007, 0011, 0013
Allegro	0153, 0315
Archer	0153, 0797
Bell & Howell	0014
Century	0153
Citizen	0153, 0315
Comtronics	0040

Contec	0019
Eastern	0002
Emerson	0797
Everquest	0015, 0040
Focus	0400
Garrard	0153
Gemini	0015
General Instrument	0476, 0276, 0011, 0810
GoldStar	0144, 0040
Goodmind	0797
Hamlin	0020, 0259, 0009, 0034
Hitachi	0011
Hytex	0007
Jasco	0015, 0153, 0315
Jerrold	0003, 0012, 0476, 0276, 0014, 0015, 0011, 0810
Memorex	0000
Movie Time	0063
NSC	0063
Oak	0019, 0007
Optimus	0021
Panasonic	0000, 0107, 0021
Paragon	0000
Philips	0153
Pioneer	0144, 0533
Popular Mechanics	0400
Pulsar	0000
Quasar	0000
RCA	0021
Radio Shack	0015, 0315, 0797, 0883
Recoton	0400
Regal	0020, 0259
Regency	0002
Rembrandt	0011
Runco	0000
SL Marx	0040
Samsung	0144, 0040
Scientific Atlanta	0008, 0477, 0017, 0877
Signal	0015, 0040
Signature	0011
Sprucer	0021
Starcom	0003, 0015
Stargate	0015, 0040, 0797
Starquest	0015
TV86	0063
Televiuew	0040
Tocom	0012, 0013
Toshiba	0000
Tusa	0015
Unika	0153
United Artists	0007
Universal	0153, 0191
Viewstar	0063
Zenith	0000, 0525
Zentek	0400

Satellite or DBS Receivers:

AlphaStar	0772
Chaparral	0216
Echostar	0775
Expressvu	0775
General Instrument	0627, 0361, 0869
HTS	0775
Hitachi	0819
Hughes Net. Sys.	0749
JVC	0775
Jerrold	0627, 0361
Magnavox	0724, 0722
Memorex	0724
Next Level	0869
Panasonic	0701
Philips	0724, 0722
Primestar	0627, 0361
RCA	0566, 0143, 0392, 0855
Radio Shack	0869
Realistic	0052
Sony	0639
Star Choice	0869
Toshiba	0790
Uniden	0724, 0722, 0052
Zenith	0856

APPENDIX B – PRESET MEMORY CODES continued ...

CD Players:

Aiwa	0157, 0124
Burmester	0420
California Audio Lab	0029
Carver	0157, 0179, 0437
DKK	0000
Denon	0003, 0873
Emerson	0305
Fisher	0179, 0174
Garrard	0420, 0393
Genexxa	0032, 0305
Harman/Kardon	0157, 0173
Hitachi	0032
JVC	0072
Kenwood	0028, 0037, 0190, 0681, 0826
Krell	0157
LXI	0305
Linn	0157
MCS	0029
MTC	0420
Magnavox	0157, 0305
Marantz	0029, 0157, 0180
Mission	0157
NSM	0157
Nikko	0174
Onkyo	0101, 0868
Optimus	0000, 0032, 0179, 0305, 0037, 0420, 0145, 0468, 0437
Panasonic	0029, 0303
Parasound	0420
Philips	0157, 0626
Pioneer	0032, 0305, 0468, 0244
Proton	0157
QED	0157
Quasar	0029
RCA	0179, 0305, 0053, 0764
Realistic	0179, 0420, 0180
Rotel	0157, 0420
SAE	0157
Sansui	0157, 0305
Sanyo	0179
Scott	0305
Sears	0305
Sharp	0037, 0180, 0861
Sherwood	0180
Sony	0000, 0185, 0490
Soundesign	0145
Tascam	0420
Teac	0420, 0393, 0174, 0180
Technics	0029, 0303
Victor	0072
Wards	0157, 0053
Yamaha	0036, 0187
Yorx	0461

DVD Players:

Harman/Kardon	0582
JVC	0558
Kenwood	0534
Magnavox	0503
Mitsubishi	0521
Onkyo	0503
Panasonic	0490
Philips	0503, 0539
Pioneer	0525, 0571
Proscan	0522
RCA	0522
Samsung	0573
Sony	0533
Technics	0490
Theta Digital	0571
Toshiba	0503
Yamaha	0490, 0545
Zenith	0503, 0591

LD Players:

Denon	0059
Mitsubishi	0059
NAD	0059
Pioneer	0059
Sony	0193, 0201

Cassette Decks:

Aiwa	0029, 0197
Carver	0029
Denon	0076
Harman/Kardon	0182, 0029
JVC	0244, 0273
Kenwood	0070
Magnavox	0029
Marantz	0029
Onkyo	0135, 0282
Optimus	0027, 0220
Panasonic	0229
Philips	0029
Pioneer	0027, 0220, 0099
Sansui	0029
Sony	0243, 0170, 0291
Technics	0229
Victor	0273
Wards	0027
Yamaha	0097, 0094

Stereo Tuners or Receivers:

ADC	0531
Adcom	0616
Aiwa	0158, 0189, 0121, 0405
Akai	0224
Capetronic	0531
Carver	0189, 0008, 0042, 0360
Casio	0195
Clarinette	0195
Curtis Mathes	0080
Denon	0004
Emerson	0424
Fisher	0042, 0219, 0360
Garrard	0463, 0424
Harman/Kardon	0110, 0189, 0891
JBL	0110
JVC	0074
Kenwood	0027, 0186, 0042, 0077
Koss	0424
LXI	0181
Linn	0189
Lloyd's	0195
MCS	0039, 0346
Magnavox	0531, 0189, 0195, 0391
Marantz	0039, 0189
Modulaire	0195
NAD	0320
Nakamichi	0097, 0347
Onkyo	0135
Optimus	0531, 0670, 0186, 0042, 0177, 0181, 0219, 0738, 0801, 1023
Panasonic	0039, 0309
Penney	0195
Philips	0189, 0391
Pioneer	0531, 0014, 0150, 0630, 0080, 1023
Quasar	0039
RCA	0531, 0054, 0346, 0360, 0530
Realistic	0195, 0163, 0181
Sansui	0189, 0346
Sanyo	0219, 0801
Scott	0163, 0322
Sharp	0186
Sherwood	0491, 0502
Sony	0158, 0168, 0474

Soundesign	0670
Teac	0463, 0163
Technics	0039, 0309, 0208
Victor	0074
Wards	0158, 0014, 0189, 0080, 0054
Yamaha	0176, 0186
Yorx	0195
Zenith	0857

Stereo Amplifiers:

Aiwa	0406
Carver	0269
Curtis Mathes	0300
Denon	0160
Harman/Kardon	0892
JVC	0331
Linn	0269
Magnavox	0269
Marantz	0269
Panasonic	0308
Philips	0269, 0892
Pioneer	0013, 0300
Sony	0220, 0689
Technics	0308
Victor	0331
Wards	0013
Yamaha	0354

Home Automation:

GE	0240
Lutron	0597
One For All	0167
Radio Shack	0240
Security System	0167
Universal X10	0167
X10	0167

DBS Audio Services:

Aiwa	0010, 0159, 0404
Fisher	0052
Harman/Kardon	0477
JBL	0477
JVC	0073
Jerrold	0459, 0520
RCA	0056
Scientific Atlanta	0460
Sony	0010, 0159
Starcom	0459

Video Accessories:

Archer	0160
GC Electronics	0160
Jebsee	0160
Rabbit	0081
Radio Shack	0160
TeleCaption	0171



SPECIFICATIONS

ANALOG AUDIO SECTION

Input Impedance	20 k Ω
Output Impedance	
Main	300 Ω (RCA), 600 Ω (XLR)
Zone2/3 & Record	51 Ω
Rated Input	2.0 Vrms
Maximum Input	
6-Channel S/E	3.0 Vrms
All Others	5.3 Vrms
Rated Output (100 k Ω load)	2.0 Vrms
Minimum Load	5 k Ω
Maximum Output	
RCA	6.3 Vrms
XLR	12.6 Vrms
Headphone Output	100 mW into 32 Ω at 0.2% THD+N
Volume Control Range	
Main	-95.5 to +31.5 dB in 0.5 dB increments
Zone2/3 and Headphone	-62.5 to +10.0 dB in 1.25 dB increments
Crosstalk (at 1 kHz)	82 dB between channels, 86 dB between inputs
XLR Pin Configuration	Pin 1: Ground, Pin 2: Positive, Pin 3: Negative

DIGITAL AUDIO SECTION

Analog to Digital Converters	AKM AK5383
Analog to Digital Conversion S/N Ratio at digital Rec output (IEC-A Filter)	100 dB
Processor	Motorola 56367 at 150 MHz
Digital to Analog Converters	AKM AK4382
Crossover	
High-Pass Slope (Small Speaker Setting)	12 dB/octave (2nd order)
Low-Pass Slope (Subwoofer)	24 dB/octave (4th order)
Frequency (Adjustable)	25 to 160 Hz in 5 Hz increments
Tone Control	
Filter Response Type	Shelf
Bass Turnover Frequency	200 Hz
Treble Turnover Frequency	2 kHz
Range	\pm 12 dB

All digital audio inputs and output are to S/PDIF electrical (75 Ω , 0.5 V_{p-p}), S/PDIF optical (Toslink), or AES / EBU (110 Ω , 5 V_{p-p}) standards.

SPECIFICATIONS continued ...

MAIN Path (RCA & XLR output)

Frequency Response and Bandwidth

6-Ch and 2-Ch BAL Direct Inputs	10 Hz to 20 kHz (+0, -0.2 dB), 1 Hz to 130 kHz (+0, -3 dB)
2-Ch S/E Direct Inputs	10 Hz to 20 kHz (+0, -0.2 dB), 1 Hz to 120 kHz (+0, -3 dB)
Analog-DSP Inputs at 24/96	10 Hz to 20 kHz (+0, -0.3 dB), 2 Hz to 37 kHz (+0, -3 dB)
Digital Inputs at 24/96	10 Hz to 20 kHz (+0, -0.2 dB), 1 Hz to 39 kHz (+0, -3 dB)

THD+N (at Rated Input & Output)

6-Ch S/E Direct Input	0.003% (80 kHz BW)
2-Ch BAL Direct Input	0.004% (80 kHz BW)
2-Ch S/E Direct Inputs	0.006% (80 kHz BW)
Analog-DSP Inputs at 24/48	0.006% (AES17 Filter)
Digital Inputs at 24/48	0.004% (AES17 Filter)

IMD (CCIF at 15 kHz & 16 kHz)

6-Ch S/E Direct Input	0.001%
2-Ch BAL Direct Input	0.002%
2-Ch S/E Direct Inputs	0.003%
Analog-DSP Inputs at 24/48	0.003%
Digital Inputs at 24/48	0.001%

S/N Ratio (ref. 2.0 Vrms, IEC-A Filter)

6-Ch S/E Direct Input	107 dB
2-Ch Direct Inputs	106 dB
Analog-DSP Inputs at 24/48	100 dB
Digital Inputs at 24/96	104 dB

ZONE2 and ZONE3 Paths

Frequency Response and Bandwidth 20 Hz to 20 kHz (+0, -0.1 dB), 3 Hz to 140 kHz (+0, -3 dB)

THD+N (at Rated Input & Output) 0.06% (80 kHz BW)

IMD (CCIF at 15 kHz & 16 kHz) 0.06%

S/N Ratio (ref. 2.0 Vrms, IEC-A Filter) 97 dB

FM TUNER

Sensitivity

50 dB S/N	13 dB μ typ., 25 dB μ max.
IHF	10 dB μ typ., 20 dB μ max.

S/N Ratio

Mono	75 dB typ., 65 dB min.
Stereo	69 dB typ., 60 dB min.

Distortion

Mono	0.2% typ., 1.0% max.
Stereo	0.3% typ., 1.5% max.

Stereo Separation 40 dB typ., 25 dB min.

Adjacent Channel Selectivity (\pm 400 kHz) 70 dB typ., 60 dB min.

Frequency Response 25 Hz to 15 kHz (+0, -2 dB)

SPECIFICATIONS continued ...

AM TUNER

Sensitivity (20 dB S/N)	49 dB μ typ., 56 dB μ max.
S/N Ratio	50 dB typ., 43 dB min.
Distortion	0.7% typ., 2.0% max.
One Signal Selectivity (± 10 kHz)	24 dB typ., 18 dB min.

VIDEO

Bandwidth of complete path from input to output	
Composite & S-Video	70 MHz
Component: Y	110 MHz
Pr	90 MHz
Pb	80 MHz

All video inputs and outputs are 75 Ω , 1.5 Vp-p. Component video switching is suitable for up to 1080p.

CONTROL

Infra Red

Carrier Frequency	38 kHz
Max. 12V Supply Current	150 mA
Max. Emitter Current	100 mA per output

RS-232 Interface

Connection	DB-9F, straight-wired
Pinout (AVM 30 side)	Pin 2: Tx, Pin 3: Rx, Pin 5: Ground
Baud rate	1200 to 115200
Configuration	8 data bits, 1 stop bit, no parity bits, flow control (RTS, CTS, NONE)

Trigger Outputs

Polarity	tip positive, sleeve negative
Max. Current at 12 VDC	50 mA (Triggers 1, 2), 200 mA (Trigger 3)
Sequential Delay	250 ms

POWER REQUIREMENTS

Supply Voltage	105 to 130 V, 60 Hz
Power Consumption	Maximum 140 W

DIMENSIONS

Height	5 ⁷ / ₈ inches (14.9 cm) including feet, rackmounting – 3 rack units without feet
Width	17 ¹ / ₄ inches (43.8 cm)
Depth	14 ¹ / ₄ inches (36.2 cm)
Weight (unpacked)	28 lb (12.7 kg)

Audio measurements were performed with an Audio Precision System Two. Specifications and features are subject to change without notice as design improvements are incorporated.

WARRANTY

CANADA & USA

Anthem Electronics warrants to the original purchaser that each Anthem AVM 30 is free from defects in workmanship and materials, during normal use and service, for a period of five (5) years from the date of sale (one year for the remote control). This warranty is not transferable unless the product is traded-in with an Authorized Anthem Dealer. During the warranty period, Anthem Electronics will repair or replace any defective components free of charge.

Warranty is void if the Anthem product is not purchased from an Authorized Anthem Dealer, if the serial number has been removed, altered, or defaced, if the product has been operated or handled other than in accordance with the instructions in its Operating Manual or otherwise abused, misused, damaged by accident or while in transport, tampered with, modified, or repaired by anyone other than Anthem Electronics or an authorized Anthem Electronics service center. If inspection by Anthem Electronics discloses that the repair required is not covered by this warranty, regular repair charges shall apply.

Display products sold by an Authorized Anthem Dealer are covered under the same warranty terms, except that the warranty period commences from the date of the dealer invoice, not the purchaser's invoice, and cosmetic flaws, if there are any, are excluded.

If a problem or defect is discovered in your Anthem product, please contact your Authorized Anthem Dealer. It is the Dealer's responsibility to determine the nature of the problem and arrange for the appropriate replacement parts, or the return of the product to Anthem Electronics.

A Return Authorization (RA) number must be obtained from Anthem Technical Support before any product can be returned to Anthem Electronics for any reason. The RA Number must be clearly visible on the outside of the shipping carton for Anthem Electronics to accept the return. Product shipped to Anthem Electronics without a RA Number will be refused and returned to the sender, freight collect. Product shipped to Anthem Electronics for repair must have shipping and insurance prepaid by the sender, be packaged in the original carton and packing material, and should be accompanied by a written description of the defect. Anthem Electronics will accept no responsibility for any damage occurring to a product that is shipped in any type of carton and packing material other than the original carton and packing material.

To receive service under warranty, an accompanying copy of the original sales receipt is required. Product repaired under warranty will be returned with shipping and insurance prepaid by Anthem Electronics (within Canada and USA only). All other repairs are subject to charges for labor, parts, return shipping, and insurance.

Disclaimer of Liability

Under no circumstances does Anthem Electronics assume liability or responsibility for injury or damages sustained in the use or operation of Anthem products, or for damages to any other connected products.

In no event shall Anthem Electronics, its agents, representatives, or employees, be responsible for any incidental or consequential damages. Some jurisdictions do not allow limitations of incidental or consequential damages, so this exclusion may not apply to you.

Anthem Electronics reserves the right to make design changes or improvements to products without any obligation to revise prior versions. All specifications are subject to change without notice.

On the expiration of the warranty period all liability of Anthem Electronics in connection with the product shall terminate.

This warranty constitutes the only warranty applicable to products sold by Anthem Electronics. No other warranty or condition, statutory or otherwise, expressed or implied, shall be imposed upon Anthem Electronics, nor shall any representation made by any person, including a representation by a representative or agent of Anthem Electronics, be effective to extend the warranty coverage provided herein.

Frequently Asked Question: Is there a warranty on trade-ins?

The balance of the warranty can be transferred on used product only if the product is traded-in at an Authorized Anthem Dealer, who may resell the product with the remaining warranty if it is cosmetically acceptable, in perfect working condition, and has not been internally or externally altered in any way.

INTERNATIONAL

Outside of Canada and USA, warranty coverage terms are set and maintained by the Authorized Anthem Distributor, not Anthem Electronics. Exact terms and conditions may vary. Anthem Electronics will provide warranty replacement parts to the original purchaser of the product, via the distributor, for a period of five (5) years, via surface mail. Additional courier freight charges will apply.

THE BIG PICTURE REAR PANEL

R A T H E M
A V M 30
MADE IN CANADA BY
SOUND FRONTIER INTERNATIONAL

CAUTION / AVERTISSEMENT
SERIAL NO. _____

THIS PRODUCT IS
CERTIFIED BY
COMPANIES WITH
A VOLTAGE
STANDARDS

18V A 500W
120W MAX

CHASSIS
GROUND

S-VIDEO-IN

CD TAPE DVD TV SAT VCR AUX

TAPE VCR ZONE 3 ZONE 2 MAIN

S-VIDEO-OUT

1 2 3 MAIN

COMPOSITE VIDEO-IN

CD TAPE DVD TV SAT VCR AUX

TAPE VCR ZONE 3 ZONE 2 MAIN

COMPOSITE VIDEO-OUT

1 2 3 MAIN

COMPONENT VIDEO-IN

CD TAPE DVD TV SAT VCR AUX

Y PB PR 1 2 3 4

COMPONENT VIDEO-OUT

1 2 3 4

DIGITAL AUDIO-IN (S/PDIF - RCA)

CD TAPE DVD TV SAT VCR AUX

DIGITAL REC-OUT

1 2 3

ANTENNA

F75 Ω

FM AM

300 Ω

IEEE 1394 INTERFACE

POWERED I.R. RECEIVERS

RS-232E

1 2 3 +12V

EMITTERS

1 2 3 +12V

RELAY TRIGGERS

1 2 3

+12V500mA +12V500mA +12V200mA

ANALOG AUDIO-OUT (S/E)

FRONT-L FRONT-R

REAR-L REAR-R

SUB 1 SUB 2

ANALOG AUDIO-OUT (S/E)

ANALOG AUDIO-OUT (BALANCED)

FRONT-L FRONT-R

REAR-L REAR-R

SUB 1 SUB 2 / ZONE 2 L

SUR-L SUR-R

ANALOG AUDIO-OUT (BALANCED)

2-CHANNEL - IN (BALANCED)

R L

6-CHANNEL - IN (S/E)

FRONT-L FRONT-R

SUR-L SUR-R

SUB SUB

6-CHANNEL - IN (S/E)

A N T H E MTM
THE KEY TO HIGH END AUDIO-VIDEOTM

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